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POPULATION AND DEVELOPMENT IN LATIN AMERICA

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/INTRODUCTION

INTRODUCTION

It is universally agreed today that trends in population variables and economic and social development are closely interrelated; that the degree and characteristics of development determine the levels and trends of population variables; and that they, in their turn, have significant repercussions on development. This consensus was incorporated as a fundamental principle of the World Population Plan of Action adopted at the World Population Conference in 1974, whose explicit aim is to help harmonize population trends and the trends of economic and social development. To that end the Plan suggests to countries the formulation and application of population policies integrated with development strategies and policies.

The member States of the United Nations will shortly be meeting at an international population conference of which the basic objective is to evaluate the results of the application of the Plan. Undoubtedly, one of the most important aspects of this appraisal will be the study of the countries' experience with regard to the integration of population policies in the development planning process. Obviously, knowledge of the relations between the behaviour of population variables and socio-economic change in the countries' specific historical situations is an indispensable element for the achievement of this integration. Firstly, as the aim is directly or indirectly to affect demographic variables, the reason is that their trends are not considered consonant with development, or that evaluation of their economic, social and political effects shows or suggests alternative and more advantageous trends. Secondly, the possibility of exchanging current trends for others that are felt to be more advantageous depends upon knowledge of the economic, social and cultural factors which determined them, likewise in concrete instances.

Discussion of the specific socio-economic and cultural factors that have determined population trends in the countries of the region and the various economic and social repercussions which these trends have produced, is, therefore, the focal point of the problems posed by the formulation of population policies integrated with development strategies and policies.

The present document makes no claim whatever to be an inventory of existing knowledge on the relations between economic and social development and demographic change in the Latin American countries. It merely endeavours to present the most outstanding occurrences in the recent evolution of these processes, and to put forward a few propositions that may serve as a basis for the discussion of some of their most important interrelationships.

Section I offers a synthesis of the recent situations and trends of population and economic and social development in the region. The population growth process is described, together with its components, changes in age structure and the results of the population projections currently extant. This is followed by a summary of the main characteristics and trends of the spatial distribution of the population, including changes in its patterns and the principal trends in urbanization and urban concentration. Next comes a resumé of some of the most outstanding characteristics of economic and social development which are considered relevant for the interpretation of population trends and their implications.

/Section II

Section II presents elements for the analysis of the factors determining demographic change. The economic, social and cultural factors that influence fertility and mortality are considered, together with the need to include them in an integrated approach whereby to account for the changes in the variables in question. Attention is then devoted to the contributions and limitations of the studies describing changes in fertility and mortality in relation to certain socio-economic indicators and the necessity of carrying out research by means of which those changes can be explained. Lastly, a few conclusions are put forward with respect to the formulation of policies to modify the components of natural growth.

In the last section a few general considerations are presented on the implications of demographic change, as well as some background material for the examination of its relations with the labour force and employment, the implications of urban-metropolitan concentration, migration and employment in the big cities, the organization of urban space and the relations between urban size, environmental deterioration and urbanization costs.

I. DEMOGRAPHIC TRENDS AND DEVELOPMENT

This chapter will give a brief presentation of the most outstanding aspects of demographic evolution in Latin America, as well as some important aspects of the region's economic and social development which are of special significance for an analysis of the process of demographic change and its possible economic and social implications.

1. Population growth 1/

The population of Latin America grew at an extraordinary rate -more rapidly than any other region of the world- after the Second World War. It increased from approximately 159 million inhabitants in 1950 to 209 million in 1960, 275 million in 1970 and about 352 million in 1980.

The rate of population growth accelerated until it peaked at over 2.8% during the first half of the 1970s; it then began to decrease steadily, and currently is slightly over 2.3% annually. Nonetheless, it took only 26 years for the population existing in 1954 to double.

Growth varied widely from country to country. In Venezuela, where it was the most rapid, the population doubled in 20 years. At the other extreme, in the countries where the process of demographic transition was furthest advanced (Argentina, Chile, Cuba and Uruguay), 35 years or more passed before this occurred. In the vast majority of the remaining countries, it took no more than 26 years for the population to double.

The growth of the regional population came about as a result of very different trends in the various countries. In Argentina, Cuba and Uruguay, growth rates were already below 2% at the beginning of the 1950s; in Brazil, Chile, Colombia and Costa Rica, they began to decline in 1960-1965, and the same thing has occurred more recently in the Dominican Republic, Mexico, Panama, Peru and Venezuela; in contrast, the rate of growth has remained high in the rest of the countries, or has even accelerated, as in the cases of Bolivia and Haiti.

The trend of the growth rates in the region was reversed when the process of declining fertility spread to a growing number of countries, while mortality continued its downward course at a rate which varied according to the time period and the country.

The regional crude birth rate remained high, over 40 per thousand, until the first half of the 1960s, and thereafter decreased until reaching its present value of under 32 per thousand as a consequence of a decrease in all the countries (except Argentina, where it has fluctuated between 22 and 25 per thousand). In 1960-1965, only four countries (Argentina, Chile, Cuba and Uruguay) had crude birth rates under 40 per thousand; more than half of the remaining countries had rates of over 45 per thousand. This situation rapidly changed, and there are now only six countries, with less than 9% of the region's population, which have rates of over 40 per thousand, none of which has reached 45 per thousand.

/The total

The total fertility rate 2/ for the region decreased from 6 to slighly over 4. At first, only four countries had a total fertility rate of less than 5.5, whereas currently the vast majority is in this category.

The other component in the natural increase of the population -mortality- has also undergone significant changes during the last 20 years. Life expectancy at birth rose from 56.8 years in 1960-1965 to 64.4 years in 1980-1985; the slower increase during the past decade is to be expected in view of the increasingly high levels attained. For the same reason, the increase in life expectancy at birth was, in general, more rapid in the countries, with higher mortality rates, thereby causing a progressive concentration of them at the lower mortal y levels. In 1960-1965, there were only six countries (Argentina, Co ta Rica, Cuba, Panama, Uruguay and Venezuela) with a life expectancy at birth of over 60 years, and another six (Bolivia, Guatemala, Haiti, Honduras, Nicaragua and Peru) where it was under 50 years. There are currently 15 countries in the first category and none in the second. Nevertheless, despite the fact that the range of variation in life expectancy at birth has decreased over the last 20 years, there are still great differences among the countries, with differentials of over 22 years in extreme cases.

These changes in life expectancy caused the crude death rate to decline, more slowly than the crude birth rate, from 12.4 per thousand in 1960-1965 to 8.2 in 1980-1985 and, consequently, the natural increase of the regional population slowed. This did not occur in all of the countries, however. In some, where the mortality indices were the highest at the beginning of the 1970s, the rates of natural increase remained high or even rose, as in Bolivia and Haiti.

The third component of population growth -international migration- has not yet been measured satisfactorily. However, as a factor of population growth, its quantitative importance is considered to be residual, both for the region and for some countries.

2. Changes in age distribution 3/

The nature of the process of transition toward ever lower levels of mortality and fertility determines both the pace of population growth and the changes in its age-sex distribution. These changes depend upon the variations in mortality and especially in fertility in the various generations which make up the population.

Between 1950 and 1970, the distribution by broad age group of the population of Latin America only experienced slight variations. The proportion of young people (under 15 years of age) only increased from 40.7% to 42.4%. Meanwhile, the proportion of people of working age (15 to 64 years) fell from 56% to less than 54%, while the percentage of older persons (65 years and older) rose from 3.3% to 3.9%. The rejuvention at the base and the aging at the apex of the age pyramid resulted from the maintenance of high fertility levels and the rapid decline of mortality, especially during the first ten years of the period.

More recently, after 1970, a highly significant change began to occur in the trends of the proportions of young people and people of working age. As a result of the decline in fertility, the former fell to 39.4% in 1980, producing an almost

/equivalent increase

equivalent increase in the latter, which reached 56.4%. At the same time, the proportion of the aged continued to grow slowly, reaching 4.2%. These proportions are significantly different from those in other developing regions, but they are still far removed from the proportions corresponding to the developed countries as a group.4/

The analysis of age distribution in the various countries clearly shows that the countries which are furthest along in the process of demographic transition (Argentina, Chile, Cuba and Uruguay) have a lower proportion of young people (30%-33%), and a higher proportion of adults (61%-63%) and aged (5%-11%).

In all of the countries, except for those with the highest mortality (Bolivia Haiti and Honduras), there was a downward trend in the proportion of the population under 15 years of age; nevertheless, it is still over 40% in more than half of the countries in the region. In contrast, the proportion of people of working age tended to rise in the vast majority of the countries. It decreased only in the three countries with the highest mortality, and in Argentina and Uruguay, which together with Chile and Cuba are the only countries where these people represent more than 60% of the population. The proportion of people over 65 years of age is very low in almost all of the countries, but is showing a tendency to grow slowly. Older persons constitute more than 5% of the population only in the four countries which are furthest along in the transition.

These changes in the age distribution of the Latin American population result from different growth trends in the various age groups. The mean annual growth rate of the population under 15 years of age slowed from 3.3% in 1950-1960 to 1.7% during the past decade. The growth of the working-age population, however, accelerated from 2.5% to 3.0% during the same periods. At the same time, the older population -which was the slowest-growing group (2.1%) during the 1950s- became the fastest-growing group during the past decade (3.3%). In the vast majority of the countries, the changes in the growth rate of the three age groups being considered followed a pattern similar to the regional pattern (a declining rate of increase of the young population and rising rates for the other two groups); however, there was a wide variation in the magnitude of these changes according to the case, in close and direct relation to changes in fertility.

The changes observed in the age distribution of the population are reflected by significant changes in some indicators related to the size of the age groups being considered which are useful in estimating the potential effects of such changes on the economy and society. For Latin America as a whole, the dependency index 5/ is currently very high, and grew slightly from 84% to 86% between 1960 and 1970; however, it later began to decrease rapidly, and reached 77% in 1980. In 1960, except in Argentina, Chile, Cuba and Uruguay, the dependency index was over 80%, and exceeded 100% in Costa Rica, the Dominican Republic and Nicaragua. It rose even higher in the 1960s, or remained at high levels, in most of the countries; however, the decline became widespread in the following decade, and in 1980 another four countries (Brazil, Colombia, Costa Rica and Venezuela) joined the group of countries having indices under 80%.

/Another indicator

Another indicator which aids in an evaluation of the potential effects of changes in the age distribution of the population is the proportion of older people within the population which is not of working age. In all the countries and in Latin America as a whole, this indicator showed an upward trend between 1960 and 1980 (it rose from 6.8% to 9.6%). By the end of the period all the countries except Argentina, Chile, Cuba and Uruguay, had indices under 11%; in general there was a direct relationship between the size of this percentage and the extent to which the demographic transition had advanced in the countries.

In Latin America as a whole, the ratio between the working-age population and the older population in retirement dropped from 17.5 in 1960 to 13.4 in 1980; this decrease was more rapid during the first half of that period. The country indices remained stable in many cases, or declined slowly, but they only reached values of less than 10 in Argentina, Chile, Cuba and Uruguay.

3. Projections of demographic change

The most recent data and demographic analyses have confirmed two facts which, in conjunction, have led to the revision of the growth projections for many countries of the region. The first and most important as regards the magnitude of its effect on growth is that the decline in fertility after 1960 was more rapid than had been estimated. The second -which also contributed, although to a lesser degree, to the decrease in the population growth rate to a lower level than had been expected- is that mortality was higher than had been estimated.

The foregoing emerges clearly from a comparison of current estimates 6/ for the 1960-1985 period with the estimates and projections for the same period which were in use in early 1975, shortly after the World Population Conference approved the World Population Plan of Action.7/ The latter overestimated the 1980 population of Latin America by more than 11 million. The new projections, whose preparation incorporates the latest knowledge about past demographic evolution, presents a significantly different picture of regional population growth than the picture given by the projections in use in 1975. According to the medium hypothesis proposed on the basis of those projections, the population of Latin America would reach 611.2 million by the year 2000, which is 76.6 million people more (over 14%) than the population estimated for that year by the new projections (534.6 million). This last figure is even lower than the figure corresponding to the low hypothesis of the previous projections (560.5 million), which is defined in United Nations publications as the lower limit of reasonable deviation.

In the large majority of the countries, the new projections for the year 2000 indicate a lower population than was previously estimated. Nevertheless, the difference in the regional total is almost entirely due to changes in the estimates for a few countries -Brazil, Colombia and Mexico- whose combined population at the end of the century will be approximately 70 million inhabitants lower than previously estimated. Two of the small number of countries whose population will grow more rapidly than was estimated in the 1975 projections are Argentina and Venezuela, which will have 4.3 million and 1.1 million more inhabitants, respectively, in the year 2000.

/The slower

The slower growth of the regional population forecast by the new projections results from a more rapid decline of fertility and a slower decrease in mortality than had been posited in previous projections.

It is now expected that the regional population growth rate will steadily fall from 2.3% annually in 1980-1985 to less than 1.9% during the last five years of this century. This would be the result of a drop in the total fertility rate from 4.1 to 3.2 and of an increase in life expectancy at birth from 64.4 to 68.6 during the same period.

Based on the projections, the rate of population growth will diminish in almost all of the countries. Growth will accelerate only in those with the highest mortality (Bolivia and Haiti). In Cuba and Uruguay, the two countries where growth is the slowest, the rate will not exceed 1% annually between 1980 and the year 2000. As a result of these trends, 10 countries -which together will have more than three-fourths of the Latin American population- will have growth rates of under 2% annually by the end of the century. However, in four Central American countries, in addition to Bolivia, Haiti and Ecuador -which together account for 13% of the population of the region- the population will still increase by more than 2.7% per year.

These trends in the countries' population growth stem from the overall reduction of fertility and mortality at rates which vary from case to case; thus, in the future, the range of variation in mortality and fertility will narrow, bringing about a progressive concentration at the lower levels of these variables. If the results of the projections are borne out, by the end of the century all the countries, except Bolivia and Haiti, will have a life expectancy at birth of over 65 years and a total fertility rate of over 5. At the same time, the number of countries with a life expectancy at birth of over 60 years will double from 4 to 8 and the number of countries which have a total fertility rate under 3 will increase from three to ten.

This evolution in the components of demographic change will also produce significant variations in age distribution, as a reflection of the incipient aging process of the Latin American population. Between 1980 and the year 2000, the three broad age groups of the regional population will grow more slowly than in the past decade, but at quite different rates (1.3% for young people, 2.6% for the working-age population and 3.2% for older people), which will result in a drop in the proportion of young people from 39% to 34%, and an increase in the proportion of people of working age (from 57% to 62%) and of the aged (from 4% to 5%). In consequence, the dependency index will continue the downward trend begun in 1970 and will reach 63% in the year 2000, when the proportion of the aged in the dependent population will have increased to 13%. In turn, the ratio between the working-age population and the older population will continue to decline, reaching 8 by the end of the century. In almost all of the countries the trends will be similar to those described here, but the magnitudes of the changes will vary in direct relation to the evolution of fertility.

/4. Characteristics

4. Characteristics and trends of the spatial distribution of the population

a) Changes in the patterns of spatial distribution of the population

The economic, social and political changes experienced by Latin America during the 1960s and 1970s have had profound effects on the patterns of the geographic distribution of the population. These changes have occurred to different extents in the various countries of the region, heightening the disparities among them as regards their modes of territorial occupation and urbanization.

Between 1960 and 1980 the population density in Latin America rose from 10.5 to 17.6 inhabitants per km2. This growth, which was the product of the population increase during the period, provides too inexact an indication of the greater intensity of the occupation of national territory. It is of greater interest to note that, while most of the countries with higher densities in 1960 -except Cuba and Haiti- had growth rates above the regional mean, in 1980 the differences had become sharper than they were twenty years before. Whereas the South American countries have values which are close to the regional average, the indicators for the other nations of the regions are higher than this mean and, are frequently twice as high. Nevertheless, the Latin American population densities continue to be relatively low in a worldwide context; the only countries exhibiting comparatively high values are El Salvador, Haiti and, to a lesser extent, the Dominican Republic.

The generalized increase in density has not been uniform; one contributing factor being the concentration of the population in certain geographical areas in the countries of the region. It is estimated that around 1960, 33.5% of the total population was located in major administrative districts whose density was 50 inhabitants per km2 or above, and which covered scarcely 3.7% of the territory. Twenty years later, the districts with this type of density constituted 7.8% of the land area of Latin America, and more than half of its population (51.7%) resided there. Concurrently, there has been a reduction of "empty" spaces; whereas in 1960 nearly one-third (32.8%) of the land area in Latin America had less than one inhabitant per km2, in 1980 only 7.7% of the territory had such a low density.

The available data indicate that the spatial concentration of the Latin American population continued in the 1960s and 1970s, even when it seems to have slowed, not only because of a possible drop in the growth of the total population, but also because of the existence of alternative locations in peripheral zones. Thus, in Argentina an incipient reversal of the pattern of concentration in a central nucleus has been observed at the same time as the share of the population in the peripheral zones is increasing; in Brazil the location patterns of the population have generally being maintained, although the peripheral zones have also shown greater dynamism than the nucleus; in Mexico and Peru there seems to be no doubt that the concentrating effect continues to be felt; however, although this momentum has slackened in Peru due to the reinforcement of the peripheral areas, it has remained intense in Mexico. Another common denominator in the redistribution of the population in the countries studied relates to the striking decline of the

/"central zones"

"central zones" which, generally, are settled areas of long standing in which agricultural and extractive activities are of great importance.

There have also been significant changes during recent decades in the patterns of population distribution in countries having a smaller territory and population than those mentioned. In Honduras, the importance of the Caribbean coastline has been growing, especially the area along the Ulua-Aguan basin. In Ecuador, it has been observed that the mountainous provinces, which contained 58% of the country's inhabitants, were being surpassed by the rapid growth of the coastal areas in the 1960s and 1970s. In Paraguay, four departments (Amambay, Canendiyú, the Upper Paraná and Itapúa), which possessed scarcely 8% of the national population in 1950, contained 30% in 1982. It would seem that the migratory movements associated with the settlement of the agricultural frontier and a more intensive exploitation of natural resources have unquestionably played an essential role in these latter changes.

b) Urbanization and urban concentration

One of Latin America's distinctive traits is its relatively high degree of urbanization; the region has a much higher percentage of urban population than the other less developed regions, and exhibits a rapid evolution which, in this particular aspect, is similar to what has been occurring in the Soviet Union since the 1950s. In 1960 less than half of the regional population (49.6%) was considered as urban according to national definitions; twenty years later, the urban population clearly predominates, as is demonstrated by the fact that in 1980 it represented 63.3% of the region's inhabitants.

The greater growth of the urban population in relation to the total is the net result of the effects of natural growth and migration, and of the increasing number of urban sites. Since there is not enough detailed information to measure the independent effect of each one of the components, an indirect estimate has been carried out which, although very provisional in nature, shows that approximately two-thirds of the increase in the urban population of Latin America comes from natural growth (64% between 1960 and 1970, and 72% between 1970 and 1980) and that the combined contribution of migration and "reclassification", corresponding to net rural-urban transfers, has decreased from 36% in the 1960s to 28% in the 1970s. It is this last component which, ultimately, explains the increase in the degree of urbanization in Latin America; hence, this increase has been lessening over time. Concurrently, the growth of the urban population has also tended to diminish, in large part reflecting the drop in the natural growth of the countries' total population.8/

Despite what has been said as regards the decrease in the rate of growth in the 1970s, the urban population of the region more than doubled in the 1960-1980 period, from approximately 104 million people to 223 million. The rural population increased by only 23 million during the same period, growing at a mean annual rate of about 1%.

In some countries of the region, the sluggish increase in rural areas has been expressed not only in the growth rate, but also in absolute decreases in the population of the countryside on a national and subnational scale during some

/intercensal periods.

intercensal periods. On the other hand, since this rural population is distributed among a large number of small settlements which are predominantly linked to agricultural activities, the population clearly depends upon the changes which this sector of activity undergoes as a result of the processes of modernization and of a breakdown of the peasant economy. Many of these settlements are dispersed hamlets which exist under conditions of isolation and in which there is a lack of attention to the basic needs of their inhabitants. Although the dimensions of the dispersion phenomenon have not been adequately established, it is likely that its incidence is relatively high in areas of smallholdings and in recently opened-up areas of the agricultural frontier; the degree of dispersion, certainly, will vary depending upon the proximity to larger localities and communications routes.

The course followed by urbanization during the 1960s and 1970s presents some significant variations. In general, the more highly urbanized countries (Argentina, Uruguay, Chile and Cuba) exhibit lower rates of urban population growth (Venezuela would seem to be an exception to the rule); in contrast, the growth rates of the countries in which there is less urbanization (Haiti, Honduras, El Salvador, the Dominican Republic and Ecuador) are above the regional mean, approaching 5% annually. In general, it has been observed that, although the decrease in the rate of urban growth between 1970 and 1980 in relation to the 1960s is shared by the region as a whole, the Central American countries, Mexico, Ecuador and Bolivia continue to experience higher rates than the remaining countries. As a consequence of this pattern, the differences among the countries as regards their degree of urbanization have tended to narrow. Thus, countries in which the urbanization process has been progressing over a longer period of time -Argentina, Uruguay, Chile and Cuba- tend to become grouped with others in which it has been more recent -Venezuela, Colombia, Mexico, Peru and Brazil- in a category of highly urbanized countries.9/ Meanwhile, some Central American countries (Panama, Nicaragua, Costa Rica and El Salvador) and Andean countries (Bolivia and Ecuador), together with the Dominican Republic, form an intermediate stratum in which 40%-56% of the total population is classified as urban. In another four countries -Honduras, Paraguay, Guatemala and Haiti- there is a persistent rural majority.

Despite the fact that the guidelines employed in the national definitions of urban population vary considerably, for the most part they identify localities in which the inhabitants are not dispersed and in which some degree of diversification of economic activities tends to be produced. The increase in the percentage of the population in this type of locality might therefore be interpreted as an index of "de-ruralization". Furthermore, its rate of increase conforms to the change in the distribution of the labour force between the country and the city.10/ Using a stricter definition, the urban population is that which resides in cities of 20 000 inhabitants and over. The proportion of the total population in Latin America which meets this criterion rose from 32.4% in 1960 to 47.3% in 1980; in absolute values, these indicators correspond to an increase from 53 million to 128 million people in 20 years. The size of this percentage and the fact that it is on the rise reveal another facet of Latin American urbanization: its relative concentration. Thus, in 1960 nearly two-thirds (65.3%) of the population classified as urban lived in cities of 20 000 inhabitants and over; this percentage has increased over time, reflecting a higher rate of annual increase,11/ and reached almost three-fourths (74.7%) in 1980. Another indicator which may be used in the

/evaluation of

evaluation of the features of this evolution during recent years is the percentage of total population growth which is absorbed by the urban centres of 20 000 inhabitants, which rose from 63.9% in the 1960s to 73.7% in the 1970s; i.e., between 1960 and 1980, two out of every three new inhabitants in the region settled in cities.

The situations in the countries vary considerably from the mean values for the region. In 1960, four sets of countries could be identified and ranked according to the proportion of their population in cities of 20 000 inhabitants and over. In the first group, composed of Uruguay, Argentina and Chile, more than half of the inhabitants lived in cities; the second group included those countries in which at least one out of every three persons resided in such settlements (Venezuela, Cuba, Colombia and Panama); in the third group -Brazil, Mexico, Peru and Ecuador- residents in localities of 20 000 inhabitants and over represented between one-fourth and one-third of the total population. The remaining nine countries had very small city populations. This picture changed substantially around 1980, when there were only four countries in this last category (El Salvador, Honduras, Guatemala and Haiti); and although in another two less than one-third of the population was living in cities (Paraguay and Costa Rica), there were 14 countries which had already exceeded this proportion. Although it is true that only five countries (Argentina, Chile, Uruguay, Venezuela and Colombia) surpassed the 50% mark, another three were very close to it (Cuba, Peru and Brazil); in the six remaining countries, between 34% and 43% of the total population lived in localities of 20 000 inhabitants and over.

Despite the fact that between 1960 and 1980 the relative portion of the total urban population residing in cities of 20 000 inhabitants and over increased in 14 countries, remained constant in another six, and decreased somewhat only in one country, it does not appear valid to infer a single concentrating effect from these elements. It should be noted that an increase in the proportion of the urban inhabitants living in cities may be the result not only of the greater size of some previously established centres which grew more than the remaining urban areas, but also of an increase in the number of cities within the country. This seems to be what has occurred in Ecuador, the Dominican Republic, Costa Rica, Paraguay, Nicaragua and Honduras -countries with a relatively low level of urbanization until the 1960s which had very few localities of 20 000 inhabitants and over. The intensification of market relations and the establishment of distribution mechanisms have probably been major factors in the multiplication of the central nuclei of this size. However, this phenomenon was not only present in the less urbanized countries; it also took place in Mexico, Colombia, Peru and Brazil. In Brazil, the number of settlements of 20 000 inhabitants and over increased from 96 to 482 between 1960 and 1980, and the territorial distribution during this period contributed to a lower spatial concentration of the urban population of this country.12/ A particular category of cities, defined as large cities (frequently the leading city of a province or region), is composed of nuclei of 100 000 inhabitants and over, whose total number in Latin America was estimated at 300 in 1980. In that year, these cities housed 128 million people, which was more than double their population in 1960, when they had 53 million inhabitants; their growth rate for the region as a whole was not significantly different from the rate for cities of 20 000 inhabitants and over, although it was slightly lower than the latter rate in the 1970s.13/ Therefore, the degree of concentration of

the city population in settlements of 100 000 inhabitants and over did not undergo any major change during those two decades. The regional value of the corresponding index rose from 78.1% to 78.9% in the 1960s, and dropped to 77 around 1980. The proportion is sufficiently high to confirm the existence of a concentrative trait in the urbanization process of Latin America. With respect to the total urban population (national definitions), cities of 100 000 inhabitants and over exhibit a growing concentration, which increased from 51% to 57.5% between 1960 and 1980.

As is true of the urban population and of cities of 20 000 inhabitants and over, the growth rates of the large cities of 100 000 inhabitants and over have been declining over time and tend to be lower in countries which have achieved a higher degree of urbanization.14/

The increasing scale of the concentration of the urban population has led to the emergence of cities of over one million inhabitants (metropolises). The recentness of the metropolitan phenomenon is demonstrated by the fact that at the beginning of the twentieth century, there was not a single metropolis in Latin America; by about 1960 this phenomenon had occurred in nine countries (Argentina and Brazil, with three cities with over one million; Cuba, Chile, Mexico, Colombia, Peru, Uruguay and Venezuela), representing 29.8% of the region's urban population. It is estimated that in 1980 there were 26 metropolises in 12 countries (Ecuador, the Dominican Republic and Guatemala had joined the list; Brazil had nine; Colombia had another four; Mexico had three and Argentina, two), with 45% of the urban population. Between 1960 and 1980 the metropolitan population of the region had risen from 31 million to 100 million; in other words, out of the total number of inhabitants in the region, the metropolises accounted for 14.8% in 1960 and 28.5% in 1980. The growth rate of the metropolitan population was much more rapid than for the other two categories of cities, and reached a rate of 5.9% for the twenty-year period, with a slightly slower rate of increase during the 1970s.15/

It has often been asserted that the urban systems of the Latin American countries are notable for their high degree of primacy; i.e., for the unquestionable predominance of some large city, usually the political -administrative capital of each nation.16/ It is thought that this characteristic is the result of the combined action of demographic, social and economic processes occurring in societies which are heavily centralized both politically and economically and which have historically developed under conditions of external dependence. Both the consolidation of the primary-exporter model and the import substitution effort seem to have helped to maintain and reinforce the pre-eminence of the main city, as a general rule, in the countries of the region.17/ This primacy appeared to increase until the 1950s, emerging in countries of different levels of development and different demographic and territorial sizes. The data concerning the population in the cities of nine Latin American countries in 1960-1980 cast doubt upon the universal and increasing nature of this phenomenon.18/

Two countries which exhibited a high index of primacy until the 1950s -Argentina and Cuba- experienced a sustained downward trend in this regard which became particularly evident in the 1970s, and which was more pronounced in Cuba. This held true for the relationship among the 4 largest cities and also among the 11 largest, and involved the relative growth of the medium-sized cities. This index is supported by the fact that the proportions of the city population of

100 000 inhabitants and over and of 20 000 inhabitants and over corresponding to Buenos Aires and Havana showed a decreasing rate. Another novel fact is that in both cases the predominant city grew at a slower rate than the countries' urban population and than their total population during the 1970s.19/

In Peru the relative predominance of the capital city has declined during the last two intercensal periods (1961-1972 and 1972-1981); this is confirmed by the relationship between the largest city and the three next largest cities, as well as between the former and the ten next largest cities. This loss of primacy appeared to be due to the growth of the second-largest city in the Peruvian urban system; furthermore, the drop in the percentage accounted for by Lima of the population in cities of 20 000 inhabitants and over is a reflection of the combined effect of the increased density of the basic urban network (the number of cities of that size rose from 26 to 48 between 1961 and 1981) and of the higher growth rate in medium-sized cities. As in Peru, a reduction was also observed in Paraguay, as regards the predominance of the capital city over the rest of the urban network which, in this case, was very limited. Until the 1960s, Asunción was the only centre of 20 000 inhabitants or more; later, other centres of this size emerged and the percentage of the urban population increased; both elements brought about a decrease in the indices of primacy between 1972 and 1982.

Only three of the countries studied exhibited clear indications that the primacy of the capital was becoming greater. In Chile, there was a sustained increase in primacy vis-à-vis four cities until 1970, but in the following decade, the figure remained stationary. The index relating to 11 cities declined. These facts, combined with the decrease in Santiago's relative share of the city population (20 000 inhabitants and over), although not of the urban population, suggest that the relative size of medium and smaller nuclei might be increasing, at the same time that the position of the smaller centres (under 20 000 inhabitants) may be becoming weaker. In Panama the index of primacy of the nation's capital fell in relation to the three next largest cities during the 1960s, but experienced a sharp upturn in the following decade; the increase is less pronounced if the 11 largest urban centres are taken into consideration, which may suggest growth at the intermediate levels of the urban pyramid.20/ It is probable that the only clear example among the nine countries studied of an increase in the predominance of the largest city during the 1970s was the Dominican Republic, where the indices of primacy and the percentages of the urban and total population corresponding to the capital increased. The only value which decreased, and this was only slightly, was the percentage represented by the population of Santo Domingo in comparison to the other cities of 20 000 inhabitants and over, due to the increase in the number of centres of that size.

Brazil and Ecuador are countries in which the pattern of urban hierarchy is uncommon for Latin America, in that the major city is not notably predominant.21/ In Ecuador the index showing the relationship with the four most populous cities remained practically unchanged between 1962 and 1982. The index for 11 cities declined slightly between 1962 and 1974 and did not vary between 1964 and 1982; the latter index showed a similar behaviour when the two largest cities were included in its numerator. Other indicators also demonstrate that the urban network has expanded especially in the 1960s and 1970s. In comparative terms, Brazil exhibits a lower degree of urban primacy. Although the index for four

/cities increased

cities increased slightly between 1960 and 1980 as a result of the greater share of the population in São Paulo after it displaced Rio de Janeiro as the most populous centre in the country, when the sum of both metropolitan areas is related to the nine next largest centres, it can be seen that there has been a consistent decline in primacy ever since the 1950s. Thus, the low degree of primacy in the Brazilian urban system is tending to decline, and the distribution of urban size would appear to be assuming a less concentrated nature, as illustrated by the decreasing percentages of the urban population and of the city population (of 20 000 inhabitants and over) corresponding to the two major metropolitan areas.

c) Occupation of space and concentration of the population

In summary, the spatial redistribution process in the Latin American population, hastened by the different behaviours of fertility and mortality and by geographic mobility, led to an expansion of occupied space and an increase in the degree of concentration of the population in the 1960s and 1970s. Together with the horizontal expansion involved in the settlement of territories which were previously sparsely inhabited, Latin America has experienced an intensification of the vertical occupation of space, which is represented by high-density zones. Despite the fact that the two phenomena appear to be headed in different directions, their simultaneous occurrence causes them to be juxtaposed. Strictly speaking, much of the horizontal expansion linked to the extension of the countries' internal frontiers is taking place in conjunction with the emergence and development of urban centres.

The areas in which population growth has been greater than the mean national values are generally the nuclei of metropolitan concentration and the peripheral zones, where a major increase in the urban proportion has also been observed. Furthermore, in a number of countries, large portions of the central zones with long-standing settlements are shrinking in population in relative terms; fundamentally, this situation appears to be accounted for by the "breakdown" of the peasant economy and by the introduction of forms of entrepreneurial organization in agricultural production which tend to substitute seasonal manpower for a stable labour force.

Thus the form of settlement towards which most of the Latin American population tends is the urban type. The urbanization process of the Latin American society and economy involves a certain degree of concentration of members of the work force in a few relatively large cities. Nevertheless, the rate at which the demographic expression of this process is expanding would seem to be diminishing, as suggested by the declining growth rates of individual cities vis-à-vis the national averages. It has also been observed that, despite the increase in the relative importance of nuclei of 20 000 inhabitants and over -which suggests the existence of highly concentrated urban systems- both the concentration of the city population in localities of 100 000 inhabitants and over and the indices of primacy relating to the predominance of the population volume of the largest urban nuclei point to a slackening in the impetus of concentration, its eventual cessation and, in some cases, its possible reversal. Concurrently, a diffusion of urban sites has been observed, especially of cities of 20 000 inhabitants and over, in countries with large populations and territories (such as Brazil and Peru), as well as in other smaller countries (such as the Dominican Republic and Ecuador). This

/increase in

increase in the number of urban centres, combined with the growth of the previously existing nuclei, has contributed to the expansion of the countries' urban networks. Finally, the large cities or metropolises have also been changing their configuration, with the appearance of vast suburban and satellite areas which continuously interact with the central nuclei.

5. Economic and social development

The demographic trends discussed above have been accompanied by relatively rapid economic growth and important social changes.22/ A brief description is given below of some of the most outstanding characteristics of these processes as regards recent trends and projections of demographic change.

After the Second World War and until the mid-1970s, the trend prevailing in the region's economy was reflected in an increasingly rapid growth of the gross domestic product, which reached a rate of over 7% during the 1970-1975 period. Although great differences existed among the countries, the changes over time in the regional context were the result of a progressive concentration at the higher growth levels. This trend was abruptly reversed in the second half of the 1970s, when the growth rate dropped to slightly over 5% and then continued to decline until it reached a rate of -1% in 1982. Thus, for the first time since 1959, the per capita gross domestic product decreased -by 1% in 1981 and by more than 3% in 1982.

The high rates of economic growth which prevailed until the mid-1970s were accompanied by profound changes in the productive structure. The manufacturing industry grew even more rapidly than the gross domestic product, in that its contribution to that product rose from 18% to 24% between 1950 and 1975. The increase in this share occurred in all the countries, but was more pronounced in countries with larger economies and populations, which were already at a higher level of industrialization in 1950. During this time, there was an opposite trend in the agricultural sector, whose contribution to the gross domestic product fell from 20% to 13%. This sector's growth rate declined to such an extent that in many countries, domestic demand had to be met partly by imports. During the second half of the 1970s, the above trends in the contributions of the agricultural and industrial sectors to the gross domestic product continued, although with less dynamism, thereby presaging the reversal of these trends which was to come about later. In 1980 and 1982, the contribution of the agricultural sector once again grew slightly in the region as a whole and in more than half of the countries, at the same time that industry's contribution declined significantly in the region and in almost all of the countries.

The rapid growth of the economy corresponded to a similar trend in investment, which reached annual growth rates of over 8% between 1965 and 1973. Beginning in the mid-1960s, the investment-product coefficient for the region as a whole remained above 20%, reaching approximately 23% in 1970-1974 and over 24% in the following five-year period. However, investment varied widely from country to country, and generally was higher and more stable in the large and medium-sized nations. Since 1980, this coefficient has decreased in the large majority of the countries, dropping to 21% for the region as a whole in 1982.

/The rapid

The rapid growth of investment in the region was supported by high levels of domestic savings, which exceeded 18% of the gross domestic product beginning in 1950, reaching more than 21% in 1974-1975, and later fell to slightly over 18% in 1982. In the region as a whole, this meant that the proportion of investment financed with domestic savings was over 90% in all periods between 1950 and 1975-1979; since that time it has remained low and was slightly over 87% in 1982. Nevertheless, the figure varied greatly from one country to another, and was generally greater in countries with higher and more stable levels of investment.

Despite the high growth rates, however, the productive system has not been able to create a sufficient number of jobs to absorb a labour force which was growing rapidly due, in large part, to the high rate of population growth. The under-utilization of manpower is a persistent problem in the region. According to PREALC */ the rate of total under-utilization (equivalent unemployment plus open unemployment) has been declining very slowly, from 23% to 20% between 1950 and 1980, with the result that in 1980 there was an equivalent of 23 million unemployed. This is mainly due to underemployment since, except in exceptional cases, the rates of open unemployment did not exceed 4%. In 1980, despite the decline in its relative magnitude, underemployment still accounted for 80% of the total under-utilization of manpower.

Within the region, the rate of under-utilization varied a great deal from country to country. In 1980 it was only 4% in Argentina, whereas in Bolivia it was over 40%. The trends of change are also different, and both levels and trends are related to such factors as the degree of development, urbanization, the dynamism of the economy and population growth.

Given the relative autonomy of the social process with respect to what occurs at the material base of the society, it now becomes necessary to examine the degree of diffusion in the society of this economic growth; this is not so much for reasons of equality, but rather because of its repercussions on population dynamics. Only a few indicators which are most directly related to the possible changes in the population have been chosen for this synthesis of social development. In view of the various social groups' unequal contributions to the growth of the population, it is interesting to examine the structural roots which are behind the composition of these societal groups.

The appraisals made in a number of ECLA documents speak of a basic ambivalence in the development of recent years; this involves a development which, "while on the one hand it revealed the region's capacity for increasing its material output at a fairly high rate, on the other it reflected a flagrant inability to distribute fairly the results of this more rapid material progress".23/ However, these deficiencies have had different outcomes in the various areas which compose social development.

The indicators on income distribution, with its implication of extreme poverty for a part of the population, are those which best reflect the contradiction between the material progress and social progress in the countries

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*/ PREALC: "Dinámica del subempleo en América Latina". Estudios e Informes de la CEPAL, No. 10 (E/CEPAL/G.1183), August 1981.

/of the

of the region. Estimates made by ECLA in 1975 based on data from seven countries, which together represent almost 80% of the population and slightly over 90% of the gross domestic product of Latin America, indicate that 10% of the richest households received 47.3% of total income, whereas the poorest 40% received only 7.7% of that income.

The most serious aspect of this inequality is its persistence. The above estimates not only confirm this persistence, but also show that even after 15 years of unprecedented economic progress, the situation of the poorest people is, comparatively, worse than at the beginning of the period. Moreover, this relative insufficiency is accompanied by a poverty which is now defined in absolute terms (insufficiency as regards the satisfaction of basic needs).

Estimates prepared around 1970 indicate that there were approximately 110 million poor people in the region and that of this number, 54 million were indigent. The former figure represented 40% of the total population of ten Latin American countries (which, in turn, included 84% of the total population of Latin America); that percentage was an average of considerable differences among areas of residence, since 62% of the rural population in those ten countries lived under conditions of absolute poverty. This is, of course, an average of the different percentages in each country.

The situation prevailing around 1970 may have varied during the course of the decade. In fact, estimates made by ECLA in 1975 indicated that, despite the deteriorating position of the poorest groups as regards income distribution in relative terms, there had been an increase in these groups' income in absolute terms. The income per household of the poorest 40% was US$ 520 in 1960, whereas in 1975 it was US$ 648 (both in 1970 dollars). Additional information is needed in order to establish the significance of this increase in absolute terms, how it affects the percentage of people below the extreme poverty line and the extent to which these percentages vary from country to country. For that purpose, in addition to data on the increase of income, it is necessary to determine the increases in the costs of the satisfaction of basic needs, as well as the extent to which the proportion of extreme poverty is influenced by population movements from rural areas to urban zones.

Other indicators selected for this partial summary of social development give a relatively different picture from what is indicated by the patterns of income distribution in Latin America. This is particularly evident in the composition of the labour force by productive sectors, as well as in the trends of educational achievements.

The data prepared by PREALC 24/ on changes in the distribution of the labour force among the various branches of economic activity indicate that there has been a steady decline in the labour force employed in agriculture, together with an increase in the services sector for all the countries of the region included in the analysis. The exodus of manpower from a sector which has been characterized by the highest percentages of the population in a state of extreme poverty seems to point in the direction of improved livelihood opportunities. In the cases where the services sector is linked to the dynamics of the productive process, the increase of the labour force within the sector will entail a real improvement in

/the position

the position of that population in society; when the increase is primarily due to the entry of people who are unemployed in the productive apparatus who create their own jobs by offering personal and generally non-productive services, there will be a social change toward greater urbanization involving a movement from the primary branches to services, but the poverty levels will continue to be relatively similar.

The labour force employed in industry is also growing in relative terms in almost all the countries as a concomitant of the urbanization process, the decline in the agricultural labour force and the growth of the services sector. The extent of the relative growth of the industrial labour force appears to be related to the previous level of industrialization. The countries in which the proportion of the economically-active population employed in industry is relatively smaller are the countries in which the growth of that labour force is proportionally greater. The Dominican Republic is the most striking case, with an increase from 8.6% in 1960 to 20.3% in 1980. Honduras had the next largest increase, registering 8.2% in 1960 and 14.7% in 1980. In Panama, where the proportion of the economically-active population employed in industry is also low, it grew from 7.6% in 1960 to 10.8% in 1980.

The countries which had the highest percentages of their economically-active population in industry were the countries in which these proportions increased the least: in Argentina, which is the most extreme case, there was a decrease from 27.1% to 21%, while Chile and Uruguay exhibited barely perceptible increases.

There were some exceptions: in El Salvador, where there was a low percentage of the economically-active population in industry in 1960 (12.2%), this proportion nevertheless decreased to 10.8% in 1980; Bolivia, Ecuador, Guatemala and Peru are some of the countries which had a relatively low proportion of the economically-active population in the industrial sector in 1960 and which experienced very slight increases in this aspect of the distribution of their labour force.

In any event, these trends should not be allowed to obscure the overall distribution of the economically-active population among the productive sectors of the different countries. Despite the vast changes observed, in 1980 more than 50% of the economically-active population was engaged in agriculture in the following countries: Bolivia (56.1%), Ecuador (51.6%), El Salvador (52.4%), Guatemala (55.4%) and Honduras (56.9%).

Information about the present situation and the progress made in education is provided by data from the Organization of American States (OAS), 25/ and ECLA publications 26/ based on data from the United Nations Educational, Scientific and Cultural Organization (UNESCO). The OAS data demonstrate that all the countries have experienced a significant decline in the proportion of illiterates; out of the 25 countries considered, 15 had an illiteracy level of more than 30%, approximately, in 1950; however, in 1980, only 8 of the total of 25 countries continued to be in this situation. The magnitude of this educational problem in the region should not be underestimated, however, since there is still a large number of countries with illiteracy percentages higher than what would be expected in the late twentieth century.

The trend in the future, after 1980, may improve in view of what is indicated by the UNESCO data prepared by ECLA for 1980 with respect to school enrollment

/of children

of children between 6 and 11 years of age. In Guatemala and Haiti, where 32% and 33.6%, respectively, of the children were enrolled in school in 1960, these percentages were 53.3% and 41.1%, respectively. Considering the children between 6 and 11 years of age as a group for the entire region, school enrollment increased from 57.3% in 1960 to 82.3% in 1980.

These educational changes will not only be felt in elementary education but will also become evident at higher levels of formal education. The data cited show that school enrollment between 12 and 17 years of age climbed from 35.4% in 1960 to 63.3% in 1980 for the countries of the region as a whole; at the highest level this change is even greater, as the enrollment proportion for students from 18 to 23 years of age quadrupled for the region as a whole, rising from 6.3% to 26.1% between 1960 and 1980. Although it is true that the 12-17 age group may include young people who are repeating the elementary level, thereby partially distorting what would appear to be enrollment in secondary education, there is no doubt that there has been significant progress. The same may be said of the increase in university enrollment.

Other indicators used to measure the extent of societal diffusion of the fruits of development indicate that the proportion of the population in each of the Latin American countries which is, slowly or rapidly, beginning to enjoy the benefits of its growth has been increasing. This is confirmed by the data on the consumption of electricity, and can also be plausibly extrapolated from the increases in the consumption of calories and proteins, as well as the decline in the number of inhabitants per doctor.

The information already presented on various dimensions of social development indicate, in general, significant progress during the past 20 or 30 years in each and every one of these dimensions, and is undeniable evidence that major social changes have occurred in the Latin American region. However, this same information shows that there is still a long way to go, particularly in some of the relatively least advanced countries, if the Latin American population as a whole is actually to enjoy the social benefits made possible by the economic progress achieved.

6. Development and demographic variables

The above summary of the most outstanding aspects of the demographic change and of economic and social development illustrates the wide variety of situations and trends present in the region's countries with regard to some of the most important dimensions of these complex processes. Such a description is merely the first step necessary to identify the principal relationships between development and demographic variables.

If only the variables at the most aggregated level are considered, i.e., the fertility, mortality and urbanization of the countries' populations and a synthetic indicator of the degree of economic development, it is evident that, in general, there is a quite well-defined relationship among all these elements. The historical experience which is the basis for what has been called the theory of demographic transition indicates that, as countries have developed and urbanized, mortality and fertility have declined, although the pattern of these changes and their determinants vary widely according to the region and country.

/In some

In some Latin American countries, this process has been advancing ever since the beginning of the century. In others, the decreases -first in mortality and subsequently in fertility- began at a later point. As a result of these trends, the countries of the region are currently at different states in the process of demographic transition. Some, such as Argentina, Chile, Costa Rica, Cuba, Panama and Uruguay, which are furthest along in the transition, currently have total fertility rates of less than 3.5 and life expectancies at birth of 70 years or more. At the other extreme, Bolivia and Haiti have total fertility rates of about 6 and life expectancies at birth under 54 years.

If the degree of development (measured by a synthetic index such as the per capita GDP) is compared with the total fertility rates and life expectancies at birth observed in the region in 1980, it is found that there is generally an inverse relationship between the levels of fertility and mortality and the degree of development. It can also be seen that the degree of urbanization (the percentage of urban population according to national definitions) and development are positively related. However, even a very brief examination of figure 1 will show that the degree of development only partially explains the variations in fertility, mortality and urbanization among the countries. In addition, and more importantly, the high level of aggregation at which these comparisons are made does not allow an extrapolation of causal relationships between specific variables which might be useful in policy formulation.

The wide variety of situations and trends as regards the economic, social and demographic variables in the countries of the region has already been noted. It is a proven fact that the indicators of these variables for each country are the result of very heterogenous behaviour in different sectors of the economy, different regions and in the groups and social strata which make up the national population.

It is precisely the different national configurations of this structural heterogeneity which make it possible to set forth some hypotheses to explain the variations in the indices of fertility and mortality and the degree of urbanization. However, the information is not available which would be needed in order to calculate the changes at the national level as a weighted average of the changes in different social strata or spatially-defined groups of the population. The only means of formulating some hypotheses about the factors which have caused the recent demographic change and some of the consequences of this change for economic and social development is through the verification of the existence of behavioural differences based on some socio-economic characteristics of people or households as regards changes in the social structure and changes in some indicators of economic and social development which are thought to be associated with levels of fertility and mortality and the degree of urbanization. Taking this viewpoint into account, the following chapters present some elements of the analysis of the factors causing demographic change and the implications of this change for the development of the region's countries.

/Figure 1

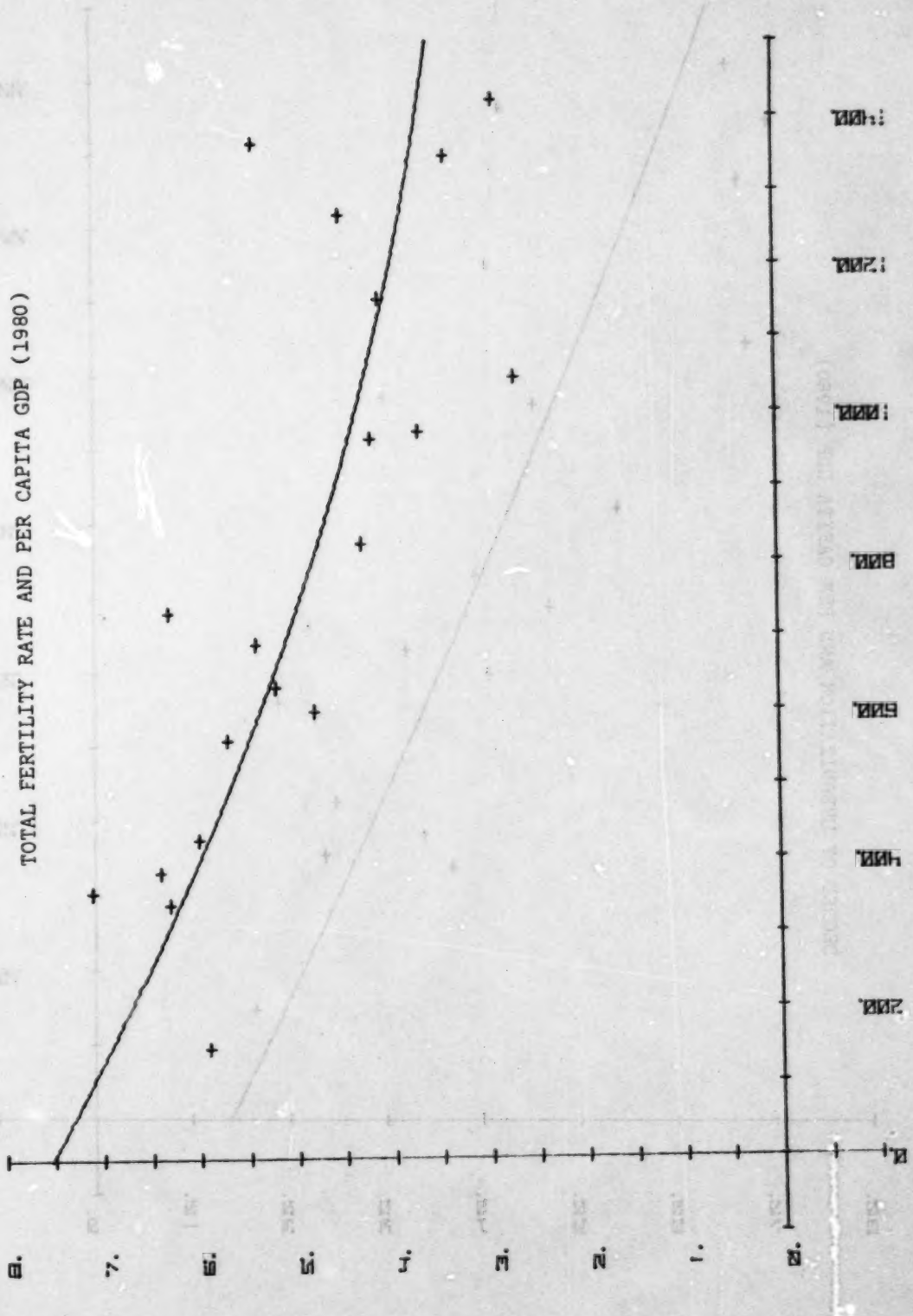
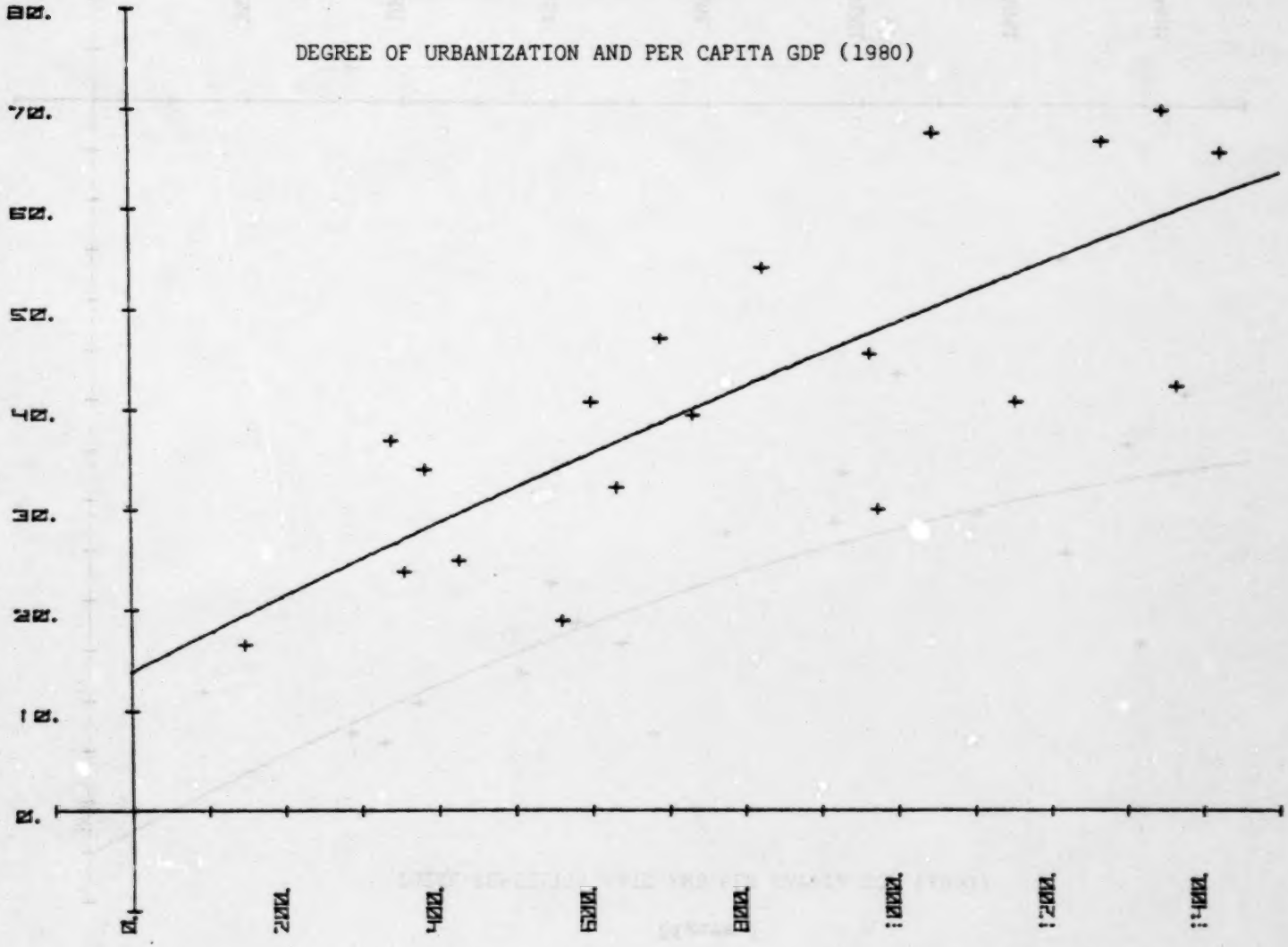
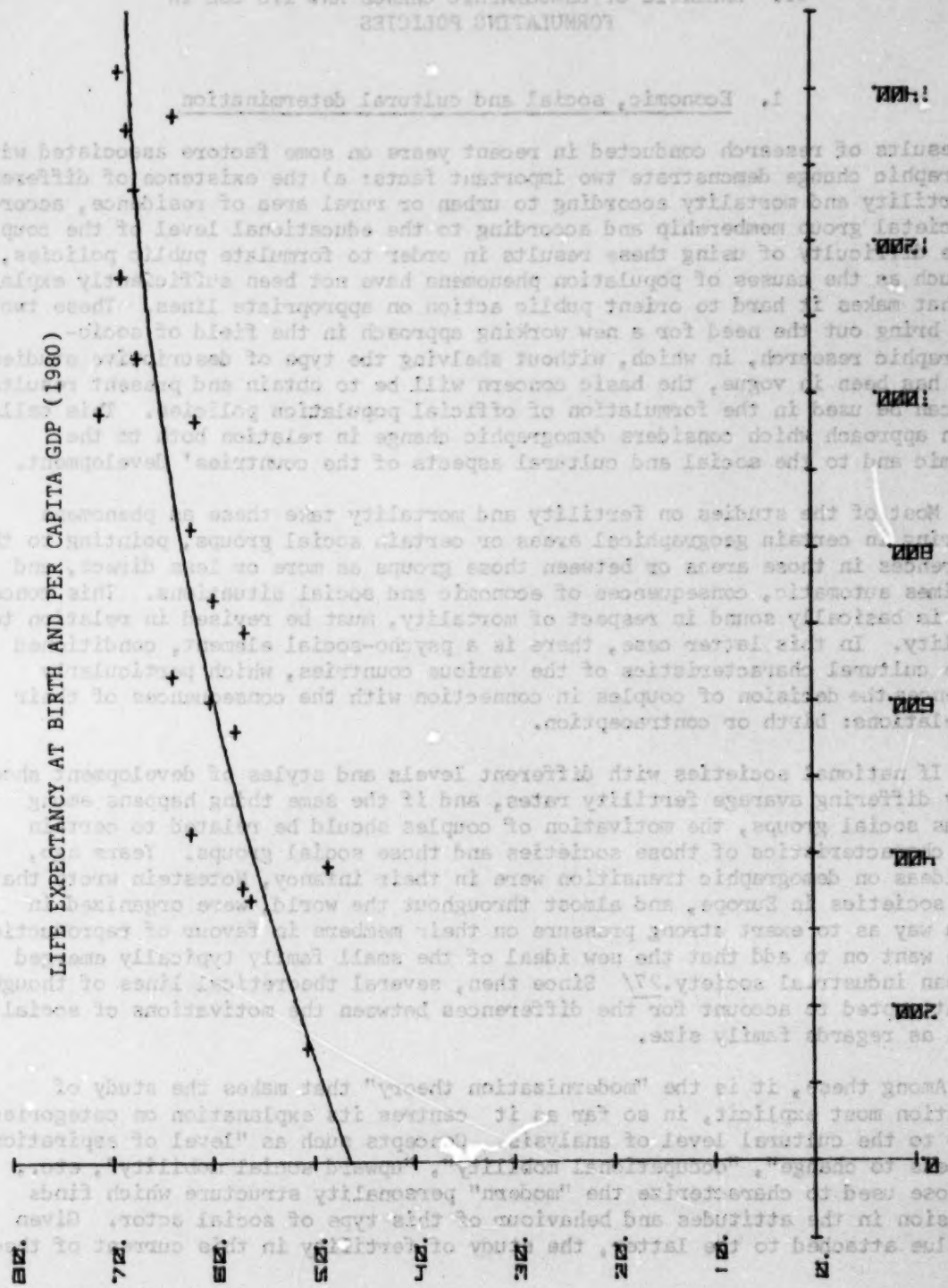

TOTAL FERTILITY RATE AND PER CAPITA GDP (1980)
8.
7.
6.
5.
4.
3.
2.
1.
0.
200.
400.
600.
800.
1000.
2000.
3000.

Figure 1


DEGREE OF URBANIZATION AND PER CAPITA GDP (1980)
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.
2000.
4000.
6000.
8000.
10000.
12000.
14000.


LIFE EXPECTANCY AT BIRTH AND PER CAPITA GDP (1980)
80.
70.
60.
50.
40.
30.
20.
10.
0.

II. ANALYSIS OF DEMOGRAPHIC CHANGE AND ITS USE IN FORMULATING POLICIES

1. Economic, social and cultural determination

The results of research conducted in recent years on some factors associated with demographic change demonstrate two important facts: a) the existence of differences in fertility and mortality according to urban or rural area of residence, according to societal group membership and according to the educational level of the couple; b) the difficulty of using these results in order to formulate public policies, inasmuch as the causes of population phenomena have not been sufficiently explained, and that makes it hard to orient public action on appropriate lines. These two facts bring out the need for a new working approach in the field of socio-demographic research, in which, without shelving the type of descriptive studies which has been in vogue, the basic concern will be to obtain and present results that can be used in the formulation of official population policies. This calls for an approach which considers demographic change in relation both to the economic and to the social and cultural aspects of the countries' development.

Most of the studies on fertility and mortality take these as phenomena occurring in certain geographical areas or certain social groups, pointing to the differences in those areas or between those groups as more or less direct, and sometimes automatic, consequences of economic and social situations. This concept, which is basically sound in respect of mortality, must be revised in relation to fertility. In this latter case, there is a psycho-social element, conditioned by the cultural characteristics of the various countries, which particularly influences the decision of couples in connection with the consequences of their sex relations: birth or contraception.

If national societies with different levels and styles of development show widely differing avarage fertility rates, and if the same thing happens among various social groups, the motivation of couples should be related to certain basic characteristics of those societies and those social groups. Years ago, when ideas on demographic transition were in their infancy, Notestein wrote that rural societies in Europe, and almost throughout the world, were organized in such a way as to exert strong pressure on their members in favour of reproduction. And he went on to add that the new ideal of the small family typically emerged in urban industrial society.27/ Since then, several theoretical lines of thought have attempted to account for the differences between the motivations of social groups as regards family size.

Among these, it is the "modernization theory" that makes the study of motivation most explicit, in so far as it centres its explanation on categories proper to the cultural level of analysis. Concepts such as "level of aspirations", "openness to change", "occupational mobility", "upward social mobility", etc., are those used to characterize the "modern" personality structure which finds expression in the attitudes and behaviour of this type of social actor. Given the value attached to the latter, the study of fertility in this current of theory

/is concentrated

is concentrated on the groups that have a relatively small number of children; the behaviour of the social group with a large number of children, in contrast, is somewhat residually explained.

Unlike the preceding line of thought, the historical-structural current takes into account the elements relating to production on which the formation of social groups is based, since it would be the characteristics of their position in this socio-economic set-up that would lead certain social groups to aim at a high rate of fertility. According to this view, it is the poorest groups, marginalized or inadequately incorporated in the structure of production, that have to try out survival strategies to provide themselves with what they cannot obtain through the formal labour market; among these strategic moves would be the building-up of a large family, to supply them with plenty of earners of goods or money, who will jointly bring in an income sufficient for the family to live on. Writers taking this line devote their attention essentially to the study of the anomalies of the capitalist system, and consequently their concern for this poorest group leads them to neglect analysis of the reproductive behaviour of the middle and upper strata.

A new theoretical approach, which focuses its explanation on the different economic value represented by children for the different social groups, relates motivation towards a specific family size with purely economic factors, which would be very rationally evaluated by couples before deciding in favour of birth or contraception. The strict logic of this theoretical approach, however, allows for no explanation of the reproductive behaviour of social groups which continue to produce a large number of children, despite the fact that, according to the theoretical premises, they ought to have decided in favour of a smaller family size. In such cases, some writers following this line of thought fall back on cultural exceptions, which can be used to explain everything that is not in keeping with economic predictions: the groups concerned, it would seem, formerly had a productive situation adjusted to a large family size, but, although changes have occurred in those circumstances, have not changed their cultural patterns, and are thus led to persist in forms of reproductive behaviour that are no longer appropriate.

From the findings of all this research a few basic conclusions can be drawn. The first of these is that the reproductive behaviour of social groups is associated with different motivations which incline them towards a large or small family size, while consideration must also be given to the possibility that some social groups only marginally incorporated into the development process have no motivation whatsoever as regards the ideal number of children, a fact which "naturally" results in a relatively larger family size.

The second conclusion indicates that the influence of the social structure on the various motivations of social groups does not derive from any single one of its structural dimensions, but stems from a historically conditioned global structuration which is based on economic aspects connected with production, on others relating to the social distribution of the benefits of development, and on certain cultural components, linked to value judgements and/or ideologies, which through customs and standards of conduct influence behaviour.

/A third

A third conclusion is that the influence of the social structure is not exercised directly on each couple, but through the formation of general cultural patterns which exert pressure on people without their being aware of it. When certain relations between fertility and urban or rural areas, and between fertility and educational levels, are analysed, it will be seen how cultural features that characterize the area of residence as a whole condition the reproductive behaviour of couples, partially modifying what might be expected from their individual characteristics. These cultural features themselves will be linked with the production and distribution structure of the area of residence in question.

As regards mortality, it must be stressed that the reduction of the mortality rate is an undisputed objective of development, so much so that life expectancy at birth is considered to be the best synthetic index for evaluating the success achieved in the development process. In the theoretical approaches there is also a consensus to the effect that, as an independent variable, the biological element plays a very secondary role in the determination of the variations observed in mortality among people pertaining to different social groups, and that these variations result from the particular incidence of specific causes of death in the economic, social and cultural environment in which they occur.

Material living conditions, resulting from low and unsteady income levels which are reflected in unsatisfactory nutritional, hygienic and housing conditions, figure among the main causes of death. The high rate of mortality at early ages in the extreme-poverty groups has empirically confirmed this interpretation.

All this makes the relation between economic and social development characteristics and the level of mortality intelligible. Generally speaking, there is a direct relationship between the level in question and the degree of economic development of a society, but the patterns followed by the development process, especially as regards participation of the population in the labour force, will imply that a larger or smaller proportion of the population is living in the worst material conditions, and this in turn will be reflected in a higher or lower mortality rate for society as a whole.

In this sense, the persistence of poverty in broad population sectors is an important factor in accounting for the mortality rate's declining so slowly in comparison with what was expected in many countries of the region during the last decade.

2. Contributions and limits of description of change

Research makes an effective contribution to the supply of inputs for policy formulation when, besides describing population phenomena as exhaustively as possible, breaking down behaviour patterns by area and by social group, it endeavours to seize upon the determining factors that have a causal relation with population trends and their variations.

As part of the contributions made in the form of description of demographic change, the most recent findings stemming from a source of information that covers

/various countries

various countries of the region are presented below. The data given in tables 1, 2 and 3, prepared on the basis of results of the World Fertility Survey, show once again that in the more urbanized areas fertility is lower in the less urban and rural areas; that groups in the upper social strata have a considerably smaller number of children than the poorer groups; and that fertility is lower among women with higher levels of education than in those with less than a year of formal schooling, or none at all. Furthermore, the data presented in tables 4 and 5 indicate the same general relations between these socio-economic variables and mortality in the early years of life: i.e., urban areas, women with a higher level of education and the upper income groups show a lower rate of mortality than is found in rural areas, among women with low levels of education and in the poorest groups.28/

Other socio-economic indicators traditionally used to describe differences in demographic variables are the economic activity status of women, and membership of ethnical groups with special socio-cultural characteristics, such as indigenous communities. The first of these two indicators, relating to the activity status of women, has also been used by CELADE on the basis of data from the World Fertility Survey, with the results observable in table 6. Despite the innovations introduced to quantify the proportion of time worked during the period of union of the couple, with the aim of more meticulously analysing the potential incompatibility between working and bearing children, the results are neither as clear nor as systematic as those noted in respect of the other socio-economic indicators. This may be due to the diversity of motives for which women go out to work; in the poor groups, women usually do so under the pressure of economic anxieties, while in the middle and upper income groups they do so as a vocational fulfilment made possible by better levels of education.

However, the substantial contributions made from the standpoint of description must not be allowed to conceal some significant limitations in terms of policy inputs. Given a gradual delinkage between the indicators used as variables and the social phenomena which through these indicators it is attempted to grasp, two facts emerge which must be weighed with caution. One of these will be presented below, and relates to the differences between fertility levels that may be found in association with the same indicator and with the same value of the said indicator. The other is the necessity of rediscovering that significance of the phenomenon to which the indicator does not refer; it will be the subject of section 3 which follows.

Residence in the country's metropolitan area may signify an average fertility of 2.94 children per woman in Paraguay or one of 3.80 children per woman in Peru (see table 1), whereas in the metropolitan area of Argentina, the average may be 1.49 children per woman.29/

It can be observed within one and the same country (Brazil) that a town with approximately 40 000 inhabitants can show an average fertility rate similar to that of a city with several million inhabitants (3.3 children per woman in Americana and 3.1 in São Paulo), and, in contrast, quite different from the rate in another town of approximately the same size (4.8 children per woman in Pouso Alegre). The difference in fertility between the two small cities is grounded on the industrial character of the first, a feature which it shares with São Paulo, notwithstanding the great disparity in size.30/

/Table 1

Table 1

AVERAGE NUMBER OF CHILDREN BORN TO WOMEN BETWEEN 20 AND 49 YEARS OF AGE WHO HAVE EVER ENGAGED IN A UNION, BY AREA OF RESIDENCE, STANDARDIZED BY DURATION OF UNION

Area of residence	Colombia	Costa Rica	Mexico a/	Panama	Paraguay	Peru	Venezuela a/
Metropolitan area	3.5	3.5	4.0 b/	3.5	2.9	3.8	3.1 c/
Large cities	4.0	-	4.2	-	-	4.3	-
Other urban areas	4.7	4.0	4.7	4.0	3.8	4.9	3.9
Rural area	5.2	5.1	4.8	4.7	4.8	5.0	4.8

Table 2

AVERAGE NUMBER OF CHILDREN BORN TO WOMEN BETWEEN 20 AND 49 YEARS OF AGE, BY LEVEL OF EDUCATION, STANDARDIZED BY DURATION OF UNION

Years of study completed	Colombia	Costa Rica	Mexico a/	Panama	Paraguay	Peru	Venezuela a/
None	5.3	5.9	4.8	5.1	5.3	5.1	4.8
1 to 3 years	5.0	5.1	4.7 d/	4.9	4.8	4.8	4.3 d/
4 or more years of primary education	4.3	4.3	4.2 e/	4.3	3.8	4.3	3.5 e/
Secondary and higher education	3.5	3.0	3.2	3.2	2.7	3.3	2.8

Table 3

AVERAGE NUMBER OF CHILDREN BORN TO WOMEN BETWEEN 20 NAD 49 YEARS OF AGE, BY OCCUPATION OF HUSBAND, STANDARDIZED BY DURATION OF UNION

Occupation of husband	Colombia	Costa Rica	Mexico a/	Panama	Paraguay	Peru
Agricultural: wage-earner	5.2	5.2	4.8	4.9	4.7	5.2
Agricultural: employer or own-account worker	5.2	5.1	4.9	4.7	5.0	5.0
Non-agricultural: unskilled manual worker	4.8	4.7	4.2	4.6	4.2	4.9
Non-agricultural: skilled manual worker	4.3	4.3	4.6	4.1	3.7	4.4
Non-agricultural: non-manual, low and medium level	4.0	3.6	4.1	3.4	3.0	4.1
Non-agricultural: non-manual, high level	3.5	3.2	3.6	3.1	2.8	3.4

Source: Calculations by CELADE on the basis of data from the World Fertility Survey.

a/ Corresponds to women between 15 and 49 years of age.
b/ Corresponds to cities of more than 500 000 inhabitants.
c/ Corresponds to the metropolitan area of Caracas.
d/ Corresponds to incomplete primary education.
e/ Corresponds to complete primary education.

/Table 4

Table 4

SELECTED LATIN AMERICAN COUNTRIES: PROBABILITY OF DEATH BETWEEN BIRTH AND TWO YEARS OF AGE, BY URBAN AND RURAL AREA

	Total	Urban	Rural
Colombia, 1966-1969	88	75	109
Costa Rica, 1968-1969	81	60	92
Chile, 1965-1966	91	84	112
Ecuador, 1969-1970	127	98	145
El Salvador, 1966-1967	145	139	148
Guatemala, 1968-1969	149	120	161
Honduras, 1967-1968	140	113	150
Paraguay, 1967-1968	75	69	77
Peru, 1967-1968	169	132	213
Dominican Republic, 1970-1971	123	115	130

Source: Behm, H., et al., "Varios países. La mortalidad en los primeros años de vida en países de la América Latina", San José, Costa Rica, CELADE, Publication series, various dates.

Table 5

SELECTED LATIN AMERICAN COUNTRIES: PROBABILITY OF DEATH BETWEEN BIRTH AND TWO YEARS OF AGE, ACCORDING TO THE MOTHER'S LEVEL OF EDUCATION, 1966-1970

Country	Total	Mother's number of years of study					Ratio (2)/(6)
	(1)	None (2)	1-3 (3)	4-6 (4)	7-9 (5)	10 and over (6)	
Cuba a/	41	46	45	34	29	-	-
Argentina	58	96	75	59	39	26	3.7
Paraguay	75	104	80	61	45	27	3.9
Costa Rica	81	125	98	70	51	33	3.8
Colombia b/	88	126	95	63	42	32	3.9
Chile	91	131	108	92	66	46	2.0
Dominican Republic	123	172	130	106	81	54	3.2
Ecuador	127	176	134	101	61	46	3.8
Honduras	140	171	129	99	60	35	4.9
El Salvador	145	158	142	111	58	30	5.3
Guatemala	149	169	135	85	58	44	3.8
Nicaragua	149	168	142	115	73	48	3.5
Peru c/	169	207	136	102	77	70	3.0
Bolivia	202	245	209	176	110 d/	-	2.2

Source: Behm, H., and Primante, D., Mortalidad en los primeros años de vida en la América Latina, Notas de Población, CELADE, Year VI, No. 16, April 1978.

a/ Provisional figures from a preliminary study based on the National Survey on Income and Expenditure of the Population, 1974. Lengths of schooling are 0, 1-5, 6 and 7 years and over.

b/ Lengths of schooling are: 0, 1-3, 4-5, 6-8 and 9 years and over.

c/ Lengths of schooling are: 0-2, 3-4, 5, 6-9 and 10 years and over.

d/ Corresponds to 7 years and over.

/Table 6

Table 6

SELECTED LATIN AMERICAN COUNTRIES: AVERAGE NUMBER OF CHILDREN BORN TO WOMEN BETWEEN 20 AND 49 YEARS OF AGE WHO HAVE EVER ENGAGED IN A UNION, BY ECONOMIC ACTIVITY AND EDUCATIONAL LEVEL, STANDARDIZED BY DURATION OF UNION

Woman's level of education	Total	Never worked	Worked only before the union	Up to 1/3 of the period in union	Over 1/3 and up to 2/3 of the period in union	Over 2/3 of the period in union
			COLOMBIA			
None	5.22	5.45	4.99	5.17	5.25	5.08
1-2 years	5.07	5.32	4.88	5.05	5.13	4.91
3-4 years	4.72	4.99	4.72	4.74	4.48	4.34
5 years or over	4.07	4.05	4.32	4.52	5.19	3.77
Secondary or higher	3.46	3.75	3.72	3.38	2.78	3.29
Total	4.60	4.88	4.53	4.56	4.57	4.31
			COSTA RICA			
None	5.89	5.78	5.72	6.07	4.89a/	6.61
1-2 years	5.46	5.43	5.32	5.51	5.55	5.76
3-4 years	4.75	4.87	4.57	4.56	5.03	5.02
5 years or over	4.01	4.09	3.89	4.12	4.15	3.91
Secondary or higher	3.00	3.25	3.29	2.94	2.75	2.83
Total	4.42	4.57	4.53	4.43	4.12	4.09
			PANAMA			
None	5.09	4.69	5.06	4.83	7.31a/	5.54
1-2 years	5.02	5.05	4.94	5.04	5.88a/	5.23a/
3-4 years	4.82	4.62	4.89	5.02	4.37	5.63
5 years or over	4.19	4.26	4.19	4.32	3.92	4.10
Secondary or higher	3.22	3.40	3.67	3.25	3.21	2.95
Total	4.12	4.40	4.36	4.07	3.83	3.69
			PARAGUAY			
None	5.28	5.39	5.81	5.01	5.00	5.38
1-2 years	4.90	5.16	4.97	4.69	4.99	4.66
3-4 years	4.57	4.93	4.24	4.58	4.52	4.53
5 years or over	3.54	3.75	3.41	3.30	3.54	3.47
Secondary or higher	2.65	3.02	2.89	2.44	2.95	2.39
Total	4.13	4.43	4.19	4.00	4.11	3.95

/Table 6 (concl.)

Table 6 (concl.)

Woman's level of education	Total	Never worked	Worked only before the union	Up to 1/3 of the period in union	Over 1/3 and up to 2/3 of the period in union	Over 2/3 of the period in union
			PERU			
None	5.08	5.35	5.33	4.77	5.21	5.02
1-2 years	4.83	5.15	4.64	4.88	4.59	4.81
3-4 years	4.78	4.82	4.52	4.67	4.55	5.06
5 years or over	4.15	4.17	3.87	4.18	4.28	4.35
Secondary or higher	3.28	3.60	3.18	3.32	3.43	3.10
Total	4.57	4.75	4.46	4.37	4.47	4.67

Source: World Fertility Survey.

a/ Fewer than 25 women.

Looking at what happens in the case of education, it may be found that a woman with over four years of primary education reaches an average of 3.54 children in Paraguay, or 4.19 children in Panama. Even if the control applied combines the fact of living in a country's capital city with the woman's educational level, the differences may be very great. A woman who has not completed a single year of schooling, living in the capital city of Argentina, may have on an average 3.14 children, while her counterparts in Rio de Janeiro, Brazil, and in Bogotá, Colombia, may have 4.68 and 5.01 children, respectively. At the other end of the educational scale, for women with a year or so of university education the average figure would be 1.91 children in Buenos Aires, whereas the corresponding numbers would be 2.17 in Rio de Janeiro and 3.18 in Bogotá.31/

3. Explanation of differences in demographic behaviour not covered by the indicators

In order to go farther than do descriptions based on indicators, recourse should be had to the explanatory potential of the economic, social and cultural characteristics of the spatial areas and social groups displaying the most significant differences in demographic behaviour.

With respect to differences by urban and rural areas, the quantitative element that is used as an indicator for separately classifying areas of residence must be relegated to a secondary place, and what must be taken as essential factors in understanding the causal relation are the economic, social and cultural characteristics of the areas in question; not only for the purposes of analysing the demographic differences between the broadest cross-sections of urban and rural population, but also in order to detect differences by social groups within each of these areas and to differentiate behaviour patterns within one and the same category.

On the basis of the stock of knowledge on which a sufficient consensus exists, some empirical data and, on occasion, logically-derived hypotheses, a line of explanation is presented here which would prove fruitful for policy formulation, and which relates to differences by socio-economic areas and social groups. There can be no doubt that the lower fertility and mortality rates in urban areas are based on the greater relative development of the forces of production and the wider diversification of productive activities, with the resultant demand for people to fill a bigger variety of jobs, many of them with more highly-skilled manpower requirements. All this shapes a social structure in which the middle and upper groups represent a relatively substantial proportion, and the workers, to a large extent, can be properly incorporated into the productive system. Moreover, State action usually makes its presence much more strongly felt in urban areas, where the provision of various social services is more effective, furthered perhaps by the greater concentration of the population; health, education, housing, recreational and cultural services go hand in hand with more satisfactory wage policies and much more extensive social security systems.

In the cultural field, the values, beliefs and ideologies supported and put into practice by the middle and upper groups are oriented towards emphasis on climbing the social ladder; on a type of consumption which has the parallel

/function of

function of representing a symbol of social prestige and a powerful encouragement to change. Upward social mobility is commonly allowed and stimulated by the productive and social strata, and is assigned a positive value as a democratic ideology.

This ideal-type characterization of an urban area serves not only to differentiate it from rural areas, but, above all, to account for inter-urban-area differences. Studies on fertility show significant differences between reproduction rates in one metropolitan area as against another, or in one medium-sized city as against another city of the same magnitude. A similar result can be met with if a comparison is drawn between fertility rates in one and the same town at two points in time, notwithstanding its having undergone no appreciable change in its size.

These differences, sizeable at times, between fertility rates and different urban areas are an indication that there are dissimilarities in some of the components of the productive, social or cultural dimension. The urban areas with less economic dynamism; with a more deficient labour market, which leaves greater relative proportions of their labour force in the so-called "informal market", depriving them of their share in the fruits of development; with a heavier preponderance of cultural patterns that do not promote higher levels of aspirations or upward social mobility -which, moreover, would be impracticable because of the insufficient dynamism of production-; these will be the urban areas that will show higher fertility rates than others, urban too, but more successful as regards their economic, social and cultural dynamics.

This diversification of fertility patterns between areas that are all urban, reflects the heterogeneity of their social structure. A greater or lesser degree of dynamism in the economic, social and cultural fields would lead to a different distribution of the population among the upper strata, the middle groups, workers in the formal market and marginal groups outside the formal productive system. Given the marked differences in rates of fertility between these groups, where among the marginalized population the average number of children may be much the same as in rural areas,32/ the average fertility rate in one urban area will be higher or lower than in another, according to the proportion of population in each of the above-mentioned social groups, and will depend especially upon the proportion of marginal population not adequately incorporated into the productive system, the consumption of goods and services, and the predominant culture.

As regards fertility rates in rural areas, relatively higher than those shown in urban areas, the general explanation is based on the lesser relative development of their productive forces; a major share of their population is engaged in low-productivity activities, a situation which is aggravated by long standstills due to the particular conditions of agricultural production. Where social development is concerned, according to existing data it is in these areas that the biggest proportions of population in extreme poverty can be located, and the worst shortcomings in respect of education, health, housing, social security and sanitation infrastructure. The predominant culture is of a "traditional" type, with values and ideologies that do little to encourage change, a low level of aspirations and, in general, scanty motivation for upward social mobility, which

/in market-

in market-economy countries is a disincentive to any impulse towards family planning. In demographic terms, there is also a relative absence of young adults, since this is the age group with most propensity to emigration.

These general characteristics of rural areas do not imply their total homogeneity; in practice, in rural areas a scattered population directly linked to agricultural activities coexists with other forms of human settlements, which, without qualifying for definition as urban, bring together people undertaking artisan, commercial and administrative activities at the service of the farmers of the area. Even within agricultural activities proper, a distinction must be drawn between large capital-intensive enterprises and similarly large enterprises where the productive forces are less developed; alongside these account would have to be taken of family enterprises or farms, which may also be differentiated by technologies used and greater or lesser productivity. Lastly, consideration should be given to the minifundia, which have too little land even to provide work for the family labour force. In many countries co-operative enterprises or those resulting from agrarian reform may constitute a new type of agricultural economic organization.

The above-mentioned heterogeneity in the structure of production will be reflected in a specific degree of social heterogeneity. Accordingly, a provisional distinction could be drawn between the following groups: non-agricultural employees living in rural areas; non-agricultural artisans living in rural areas; small-scale rural landowners; owners of minifundia; workers in capital-intensive agricultural enterprises; workers in traditional enterprises; seasonal workers; peasant members of agricultural production co-operatives, etc.

What is most striking about this agrarian social heterogeneity, and will also most powerfully influence the high rates of fertility noted, is that it does not result in heterogeneous reproductive behaviour by social group, as happens in urban areas. A glance at the data in table 3 shows that in the two agricultural groups singled out (wage-earners on the one hand, and employers and own-account workers on the other), fertility rates are high and very much alike.33/

This peculiar feature of the agricultural situation, where the middle-income groups also show a high rate of fertility, calls for special consideration, relating to the organization of agricultural production and to some of its particular and closely interrelated cultural features. The historical characteristics of agricultural production -labour-intensive and fundamentally based on family enterprises- has induced peasants to provide themselves with the necessary labour force by having numerous families; this trend is often strengthened by a relatively high level of mortality which compels them to plan a large number of children. This economic explanation, valid for peasants with sufficient land, is no longer of use when it comes to understanding the reproductive behaviour of owners of minifundia, much less that of landless workers. Hence the cultural formation of the area makes its specific contribution.

The productive conditions characteristic of the classic peasantry were common to all peasant societies in former times, and this generalized situation, linked to high mortality rates and to the availability of land, led to the creation of cultural values which took a positive view of large family sizes. But changes in

/these conditions

these conditions have been unaccompanied by any modification of the positive value set on children. The owners of minifundia and landless workers continue to act in conformity with cultural patterns that in their case are no longer in keeping with the material base of society, and lead them to produce a number of children who can find no work in rural areas and a large proportion of whom will go to swell the marginal urban groups. Many ethnic communities in Latin America perhaps offer the clearest example of dephasing between the material changes in society and the permanence of its cultural patterns.

The foregoing lines of reasoning, designed to show a way of going farther than quantitative indicators of urban-rural differences in the quest for the true causal factors, can also be applied to analysis of the influence of the educational level on fertility. This is possibly the most clearcut instance of the gradual delinkage of the indicator from processes it was supposed to interpret.

Many studies have regarded education as an acceptable indicator of the socio-economic level of individuals, and thence as an indicator of the social class or group to which they belong. Other researchers have taken education as an indicator of the level of modernization of social actors; applications deriving from this approach place the accent on the possibilities of increased dialogue between the members of a couple, redounding to the benefit of more deliberately planned fertility; the same might be said of knowledge of the availability of contraceptives, as well as of the ability -which is greater among modern groups- to pick out those which have been found to provide the most effective control.

Given the diversity of factors that may underlie this educational indicator, every analysis should be very clear as to which of these factors it is dealing with, and whether there are new and perhaps more satisfactory indicators, as, for instance, occupation and housing conditions, if the aim is to characterize social groups.

A point that will be equally important to clarify is whether education is really an indicator of material and cultural aspects of social groups, or whether it is a consequence of those groups' characteristics. Is it education that brings with it socio-economic well-being and modern behaviour patterns, or is it the middle and upper income groups, with economic capacity and culturally up-to-date, that make most use of education as a means of maintaining that social situation? Without disregarding the possibilities of the former, there can be no doubt that the latter is more universally true.

If this is so, the high statistical correlation between education and fertility should be reinterpreted, since the real cause of a given reproductive behaviour would be the socio-economic capacity of the family and its cultural patterns, not education; the latter would really be just one more manifestation of the characteristics of the social groups in question, and so would the size of their families. The relation between education and fertility would be largely spurious in causal methodological terms, since the association between them would be mainly derived from their both being manifestations of another socio-economic characteristic with a genuine causal role.

/This has

This has important implications for policy formulation, since the basis of measures for reducing fertility will no longer be the expansion of education, but the structural changes that will lead to the eradication of poverty and of the marginal situation of numerous social groups, and will motivate them for change. This will mean an increase in educational services, although not as an objective in itself, but as a consequence and in the service of the other structural changes.

4. Conclusions

From the foregoing analyses some general conclusions can be derived which are placed at the service of the countries as a frame of reference within which they could design national population policies appropriate to each country's individual characteristics. The first lays stress on the objective effects that will be produced on the reduction of mortality and fertility by the eradication of extreme poverty. To the extent that this objective proves economically viable today, in accordance with ECLA's affirmations in various documents, and inasmuch as it is an intrinsically just objective whose pursuit cannot be deferred, the governments of the region should expect a strengthening of downward trends in mortality and fertility.

The same conclusion may be reached with respect to the fulfilment of the general, economic and social objectives of development plans and public policies implemented by the governments in question. These effects, however, do not occur automatically, for which reason they leave some room for government options, both as regards the speed of the downward movement and, in some cases, the reversal of the trend. In so far as it is impossible, besides irrelevant, to formulate a type of population policy valid for the countries of the region as a whole, allusion will be made under this head only to those elements in the various dimensions of society which are most susceptible of becoming the target of policies designed to influence population dynamics.

The development style adopted as an economic growth strategy will be one of the basic dimensions from the standpoint of its influence on the pace of demographic change. The type of technology used and the extent to which it is incorporated; the distribution of the labour force among the various branches of production; the characteristics of the labour market, the proportion of population in various segments and the higher or lower level of manpower skills; the level of wages for productive work; in short, the capacity of the economy effectively to incorporate the population as a whole into the tasks of production: all these will be economic policy decisions which will create the material bases destined to influence population dynamics.

The organization of agrarian production affords the governments of the region special opportunities for options, a fact which is the more important because the areas concerned are those with the highest rates of natural population growth. It should be borne in mind that since the eradication of extreme poverty will result in a lower mortality rate, natural growth in this area will be even greater; but the incorporation of the rural population into the production and especially the consumer market (generally originating in urban environments) will create material conditions for cultural changes that will lead to a decline in fertility. In this same context, the option as to the organization of agrarian production will have

/a considerable

a considerable effect on the size of rural families: when emphasis is placed on the peasant economy, a relatively high rate of fertility will certainly be maintained, given the association between available labour supply and number of children in the case of small landowners; in contrast, the entrepreneurial agrarian economy based on a non-family labour market will show a downward trend in fertility, since it means that there is less point in having numerous children in order to obtain manpower.

Social development, in turn, will also tend to bring down mortality and fertility, as can be deduced from its negative association with these demographic variables. Its repercussions on population growth will depend upon how far it affects fertility and how far mortality. Possibilities of an increase in population growth will arise if it exerts a stronger influence on the reduction of mortality than on fertility, as well as if certain specific measures are adopted which offer socio-economic benefits as an incentive to delay a decrease or even to promote an increase in the number of children.

It is to be expected, however, that over the long term social development will make for a lower population growth rate; in this sense governments will have more possibilities of graduating the decline in the rate of growth. These possibilities may take shape through the depth and coverage accorded to health policies; the content of maternal-child health plans; the inclusion or exclusion of family planning policies; the greater or lesser participation of women in economic activity and in the benefits of social development in general; and the higher or lesser degree in which all social groups have real access to the various goods and social services.

Cultural factors offer the biggest range of options for influencing fertility trends, even over the short term. The effects of economic and social development, while contributing to the reduction of mortality, do not play the necessary role in relation to family size. Although in the long term that development will undoubtedly lead to a low fertility rate, a number of instruments are left in the hands of governments which can exert influence to ensure that, idependently of economic and social betterment, couples are motivated towards a larger or smaller number of children.

Some of the several instruments which can be used to influence fertility trends in one or the other direction are as follows: the content of the messages and the cultural and ideological prototypes that are transmitted through the mass communication media; the type of values transmitted in the school, concurrently with the learning process; the greater or lesser degree of interest in carrying urban cultural patterns into rural areas in general and into ethnic communities in particular; the wider or more restricted diffusion of the demonstration effects stemming from relatively more developed societies, with smaller family sizes, and their train of implications on prestige symbols and patterns of consumption.

/The various

The various economic, social and cultural measures of which mention has been made represent suggestions for the formulation of policies by the governments of the region, designed to influence population dynamics in one direction or another, with due regard to each country's individual characteristics. These guidelines must be further consolidated through causal research to establish more exact specifications as regards the relations between development and changes in demographic variables. A particularly important role in this research is incumbent on studies to evaluate the real effects that have been produced by public policies proposing to influence, directly or indirectly, population dynamics.

/III. SOME

III. SOME IMPLICATIONS OF DEMOGRAPHIC CHANGE

This section presents material contributory to the analysis of the implications of demographic change for the economic development of the countries of the region. In the first place, some observations may usefully be made, although in very general and synthesized terms, on the way in which population influences development. This relation basically stems from the fact that people are both producers and consumers, and that their participation as such generally varies with age and sex. The size, growth rate and structure of the population by age and sex determine the working-age population and the number of consumers. However, both participation in economic activity and levels and patterns of effective consumption depend upon a set of economic, social and cultural factors. The impact of the latter must therefore be evaluated so that the effect of demographic factors can be separately deduced. From the conceptual standpoint, the problem is complicated by the fact that in their turn, the very changes induced in participation and consumption influence the demographic variables. For example, an improvement in material living conditions resulting from increased participation of the population in higher-productivity economic activities will bring about changes in fertility and mortality, which are determinants of the growth and age structure of the population. These feedback effects must not be forgotten, especially when taking the long term into account.

Population trends, through their influence on production and consumption, also have repercussions on many other aspects of development, such as formation of savings, investment, income distribution and the satisfaction of basic needs.

It must be pointed out, however, that empirical studies on the economic and social repercussions of population change in Latin America are few and far between, and that even at the world level there is much more controversy as to the scale and direction of such effects, than on the factors influencing changes in demographic variables. This situation is particularly serious, if it is borne in mind that it is precisely the expected consequences of given population trends that should be the bases for the adoption of policies designed to modify the trends in question.

In the following pages some considerations are put forward on the growth and utilization of the labour force and the implications of urban concentration. Among the problems associated with population trends, it is these that are most frequently mentioned in development plan diagnoses by the countries of the region.

1. Population, labour force and employment

It is estimated that Latin America's labour force expanded, at a steadily increasing pace, from 55 million in 1950 to over 113 million in 1980.[34/] The growth rate of the economically active population (EAP) has been rising since 1950, following much the same trend as that of the working-age population. Between 1950 and 1970 the regions's economically active population grew more slowly than total population and the working-age group, but during the last decade it increased faster than total population, although somewhat more slowly than the population between 15 and 64 years of age. These trends are also observable in a growing number of countries.

/In all

In all countries except Argentina and Uruguay, a rising trend can be noted in the growth rates of the total as well as of the male and female EAP. The female labour force has increased systematically faster than the male, owing to opposite trends in the global rates of participation of men and women, which decrease and increase, respectively, both in the individual countries and in the region as a whole.

The effect of population growth and that of changes in rates of participation in economic activity during the period 1950-1980 can be evaluated by estimating how much the economically active population would have grown if rates of participation by sex and age group had remained constant at the levels observed in 1950 in each country. Calculations based on the information mentioned above 35/ show that, if there had been no change in participation rates, the region's economically active population would have increased from 55 to 122 million people, i.e., that population growth would have enlarged the labour force by 67 million persons; but it in fact increased by only a little over 58 million, owing to the fact that about 9 million people who would have formed part of the labour force if the 1950 participation patterns had been maintained, were no longer included in it in 1980.

These results are the consequence of quite different behaviour on the part of the male and of the female labour force. While in the former the increase deriving from population growth was offset to some extent (25%) by the decrease due to the change in participation rates, both factors helped to increase the female EAP, and the effect of the change in participation was very substantial (almost 40%). Similar conclusions are reached for the great majority of the countries of the region. The decline in men's participation is the result of a general downward trend in the age-specific rates of activity of youth and old people, which has been associated with the increase in schooling, in the former case, and in the latter with the wider coverage of social security services. In contrast, the global participation rate of women rose during the period under consideration because the fall in the participation rates of youth and old people had a much slighter effect than the increase in the rates corresponding to the more active age groups.

As has already been said, the labour force in Latin America has expanded at a rapidly increasing speed during the last 30 years, largely because of the accelerated growth of the working-age population. At the same time, with the advance of urbanization, the urban EAP increased much faster than the rural; in 1950 it represented 44% of the total economically active population, and its growth in the next three decades brought it up to more than 80% of the whole.

The available data also provide evidence of the persistence of a serious maladjustment between labour supply and demand in all the countries of the region, which is reflected in the slowness of the decrease in the coverage and intensity of underemployment, and in its increasing urbanization.36/ Situations and trends vary however, from one country to another. In a group which includes Brazil, Colombia, Costa Rica, Guatemala, Mexico, Panama and Venezuela, higher growth rates of non-agricultural employment in the modern sectors were achieved plus retention of more workers employed in the modern sector of agriculture, and a

/sizable reduction

sizable reduction in the total rate of underutilization of the labour force. In another group of countries, comprising Bolivia, Ecuador, El Salvador and Peru, the increase in the modern non-agricultural strata is smaller, the reduction of agricultural underemployment is slower and total underutilization of the labour force shows no signs of decreasing. Lastly, Argentina, Chile and Uruguay are exceptional cases, by virtue of the degree of modernization of the labour force structure, the slow growth of total population, as well as of the total and of the non-agricultural EAP population, and the low indices of underutilization of the labour force which they have reached.

As regards the different trends in underutilization of the labour force in the first two groups of countries considered, it should be stressed that the lowest indices correspond to the group where investment was highest; this seems to be the main determining factor, since there was not much difference in the growth rate of the labour force between the countries and the two groups.37/ This does not mean that the rapid growth of the labour supply has had no incidence on the persistence of underutilization. Its effect was probably significant in both cases.

2. Some implications of the spatial distribution of the population

Diagnoses regarding the spatial distribution trends of the population frequently conclude with the identification of some "critical areas" with regard to which it is recommended that corrective action should be taken. These "critical areas" are usually linked with a certain perception of the "excessive" degree of urban concentration and the "high level" of dispersion of the rural population. The valuative framework or the technical criteria on which such evaluations are based, however, have not always been made explicit. In these conditions, it is extremely difficult to know what it is desired to indicate through the words "excessive" and "high level". Bearing in mind the complications presented by an approach aimed at the detection of "critical areas" and the sharp heterogeneity existing in Latin America in general and within each country in particular, on the present occasion only some economic and social implications of the spatial concentration trends of the population will be considered.38/

As part of the set of changes which have affected the economic and social structures of the region, the Latin American population has lost its predominantly rural character and has acquired instead an increasingly urban nature. As already noted in many previous studies, this urban expansion has been marked by concentration in cities with 20 000 inhabitants or more. During the 1950s and 1960s it was observed that in addition to the steady overall increase, this concentration was particularly marked in the largest cities. Although this trend seems to have slackened and even to have shown some signs of being reversed in some countries during the 1970s, the growth prospects of the large cities continue to be of great significance. There are many consequences usually attributed to this process of concentrated urbanization which is so widespread throughout the region.39/

/3. Urban

3. Urban-metropolitan concentration: foundations and dynamics

Although it is true that a number of national policies have been adopted with the aim of checking this concentration because of the critical manifestations of the prevailing trends, experience has shown that these action proposals have had meagre results even when they have not been a downright failure. Many of the diagnoses which serve as the starting point for these policy formulations seem to ignore the fact that the play of the market forces within a style of development which advocates an accumulation process centred around industrialization has favoured such concentrative tendencies. Geographical concentration cannot seriously be considered without also taking into account the dimensions of a global process which logically tends towards concentration.40/ A number of specific factors have helped to make the main cities particularly advantageous places for the location of industrial activities and of the whole complex of services which go with them. Mention may be made in this respect of the possibility of access to the biggest market in the country, the better endowment with infrastructure, the existence of a big labour force brought together in one place, the fact that the national political authorities are usually located there, the presence of financial intermediation machinery and that of other producers which act as suppliers and consumers of inputs.41/ It must not be forgotten, too, that many economies of scale are achieved through large technological units. It has been observed, moreover, that the process of concentration, albeit with some variations, tends to be self-generating and to create favourable conditions for increased scales of production and higher productivity.42/ In Brazil, for example, it has been seen that in proportion as the size of the cities grows, there is an increase in the diversification of the economic structure, the average size of enterprises increases, and also the productivity of labour in industry rises as a result of the increase in the ratio of capital to labour and the existence of economies of scale.43/ This set of considerations helps to show that urban concentration, as part of the overall process of techno-economic concentration, forms a basic component of the style of development which predominates in the Latin American countries.

The available information permits it to be stated that "the main areas of concentration of the population are already so large that it is improbable in the present circumstances that there could be a substantial reversal of the process for a long time to come".44/ It would appear that the big cities continue to offer favourable conditions for the functioning of the prevailing style of development; the possibilities of greater productivity continue to be valid in these concentrations, calling into question the prediction of economic theory that productivity among areas would be equalized by population migration to areas where wages are highest.45/ This situation is probably due to the fact that any possible diseconomies due to the degree of urban concentration have nevertheless failed to outweigh the economies deriving from it, or else such diseconomies as exist are external to the enterprises, that is to say, the latter do not have to bear the costs of contamination or congestion, which are shouldered by society as a whole.

/It may

It may therefore be assumed that, just as the State helped to create the conditions for the establishment of spatial concentration, it is also providing the necessary conditions for its strengthening. Inasmuch as the State represents the forces directly involved in the promotion of the prevailing style of development, it would not be surprising to find that it is also subsidizing the private sector either directly or indirectly. Thus, the form of resource allocation linked with industrialization leads to a certain degree of inevitability of urban concentration, which, in any case, has shown itself to be efficient as regards the generation of economies of scale for industrial capital.46/ In these conditions, a reduction in public spending on big cities, as an attempt to check their growth, could mean a reduction in the economic growth rate. Furthermore, restricting the population growth of big cities would mean intervening in their sources of expansion, which could mean that the relevant policy would finally amount to reducing the growth rate of the countries' population.47/

If, then, from the point of view of the accumulation process, spatial concentration is functionally efficient, it is important to bear in mind that the big cities will continue to exist as a fundamental reality of the spatial distribution of the population: as long as the inequality inherent in the form of development of the forces of production is maintained, the concentrative tendency will continue unchecked.48/ In some countries, it is true, a certain slackening in the growth rate of the big cities has been observed, but this does not alter the fact that those cities continue to have heavy relative importance and are continuing to increase in size in absolute terms. On the other hand, as is suggested by the cases of Brazil and Mexico, this "gigantism" could be modified by the emergence of new metropolitan agglomeration models in which big spaces are redefined around a central nucleus. Furthermore, it has been noted that once a certain level of population has been exceeded, these agglomerations undergo a relative decline in their growth rates. Finally, the slackening of the rate of concentration should also be understood as part of a general trend towards the reduction of urban growth and population increase in the countries.49/

The inequalities in the distribution and development of the forces of production bring with them inequalities as regards the material living conditions of the population. It is frequently held that these differences lie at the root of spatial population movements. Although no recent information is at hand regarding the contribution made by migration to the growth of the big cities, there are indications that although this contribution is still substantial, it has been losing relative importance. A combination of elements of expulsion and attraction enter into this population transfer. At all events, the available evidence tends to disprove the negative appraisals made regarding the fate of migrants in the big cities. Despite the difficulties associated with their insertion into a different environment, it has been established that migrants are not at a disadvantage with respect to those born in metropolitan areas as regards economic and social opportunities.50/ It is probable that migration to these big centres helps the social mobility of those who have not been able to improve their socio-economic conditions in their birth places, regardless of whether these were urban or rural.51/ The implications arising from this information shed doubt on the suggestions sometimes made regarding the desirability of cutting down migration to the big cities.

/An important

An important part of the traditional diagnosis regarding the "negative" nature of urban concentration is connected with the supposed inability of the big cities to offer jobs to their population. It is reasoned from this that these nuclei are merely great accumulations of poverty characterized by their inability to satisfy basic needs. There can be no doubt that the big cities form part of the socially inequitable situation displayed by the prevailing style of development, and it is evident that the unfulfilled needs from which the poorest social groups suffer are much more visible in them. Nevertheless, an ECLA study has shown that these big cities register per capita incomes which are higher and less inequitably distributed than in the territory of the countries where they are located, considered as a whole.52/ The biases introduced by the generalization of monetary transactions, the patterns of consumption of the metropolitan area and the higher relative cost of the means of subsistence, however, give rise to a structure of expenditure which restricts the capacity to save and causes generalized indebtedness. It has been suggested that this latter situation is associated with the adoption of durable goods consumption models by the different urban strata.53/ At all events, the evidence indicates that poverty conditions are more accentuated in rural areas than in the towns and that the majority of the urban poor are located outside the metropolitan areas, particularly in the smaller cities.54/

As regards employment, it used to be asserted a few years ago that migration to the main urban centres, concealed unemployment and the steady increase in open unemployment were problems of growing seriousness. While it is true that there has been some increase in open unemployment in recent years, as a reflection of the world recessive conditions and domestic crises, the corresponding rates do not seem to be very high. Although open unemployment is an essentially urban phenomenon, it is probable that underemployment, with unstable employment in low-productivity activities and small and irregular income, is actually of greater significance. Even so, the estimates on the underutilization of the labour force indicate that such underutilization is proportionally higher in rural areas.55/

It cannot be denied, however, that a high percentage of the underemployed are located in urban areas, where they constitute what PREALC calls the "informal sector".56/ Paradoxically, it has been noted that the percentages of urban underemployment have been increasing even though the creation of jobs in modern urban activities has been distinguished by its high growth rates. This situation seems to be explained by the speed at which the transfer of population from agricultural to urban sectors has taken place, the high growth rate of the urban population of working age, and the increases in rates of participation. Many of these changes appear to be linked to migration. This does not imply that migrants basically enter activities of lower productivity, however; even though it is true that when they first arrive in the big cities some of them work in service activities or activities where no special qualifications are required, it has been observed that they are gradually incorporated into the regular labour market.57/ Furthermore, the growth which has taken place in jobs in the so-called "informal sector" in the big cities, although varying considerably between the different countries of the region, calls for more detailed analysis, especially bearing in mind the future prospects of employment in the cities.58/ In this respect, it seems beyond doubt that in the light of the present demographic tendencies and forms of participation in economic activity, the labour force of these cities will continue

/to increase

to increase rapidly. The intensity of the pressure for new jobs will persist in the years to come, even though the growth rate of these agglomerations goes down. These prospects represent an important challenge if the aim is to provide jobs in sectors of higher productivity.59/

An important feature of employment in the larger cities consists of the higher participation of women in secondary and tertiary sector activities. This incorporation of women into urban productive work, which involves incompatibility between the roles of mother and worker outside the home, has frequently been identified as a factor contributing to the preference for smaller families. Together with the fact that women are playing this economic role, the rise in the level of schooling and, possibly, the aspirations to rising social mobility are elements in urban areas which are associated with a trend towards lower fertility. It is considered that the patterns of social interaction which occur in the metropolitan environment appear to have led to changes in the sphere of motivations and attitudes which have profound implications for population growth.60/ The effects which these moves may have on the behaviour of migrants is a field which has still been only scantily explored.

4. Organization of the urban space

Another aspect which has been given a leading place in the concepts predicting catastrophic developments as regards the big cities is that of the spectre of "marginality". The use of this term, even when deprived of its socio-cultural connotations and referring only to its ecological significance, is still a subject of controversy. It seems more appropriate to consider the situation of the areas where the lowest-income strata live as being part of the more general process of organization of the urban space. From this point of view, the treatment of the subject of the popular habitat 61/ as an expression of urban poverty -not just the poverty of those who work on their own account, but also of substantial proportions of the industrial proletariat- is indissolubly linked with the analysis of the forms of appropriation of land, action with regard to housing, urbanization regulations, and the policies on the provision of basic services. The control exercised over urban land is an element of vital importance in the emergence and deepening of social inequalities, as well as being a means for the formation and expansion of real estate capital.62/

In many of the big cities of Latin America there has been a steady rise in land prices which has had regressive effects on popular housing, making it more expensive and forcing the poorest members of the population to crowd together in inner-city slums or move out to peripheral areas lacking basic services. There can be no doubt that the population growth in big cities, even when it is relatively low, gives rise to increases in absolute terms in the number of inhabitants, which aggravates the pressures on land for housing use. When land costs increase, the supply is overtaken by demand. Furthermore, the regulations on land use frequently contain restrictions on supply which lead to a still greater rise, of a speculative nature, in land prices. Financial capital has gradually been building up an "integrated" supply of land for urbanization and housing: a form of operation which brings big gains (from land rent, profits on capital invested in construction, and interest on financial capital), while at the same

/time helping

time helping to accentuate the differences between the different social strata as regards their patterns of location. Public investment in the provision of urban infrastructure, for its part, tends to be concentrated in the higher-income areas, thus raising their value,63/ while leaving the needs of the popular strata unfulfilled.

In some countries, the housing policies undertaken by the State have absorbed enormous amounts of resources, but frequently action in this field has not had redistributive effects but on the cc trary has assumed regressive features. Thus, the tariff and tax concessions granted tend to benefit the construction firms and the middle and high-income strata which, because of the inequalities in income distribution, are the only ones which can gain access to the financing loans granted by the institutions set up to promote an increase in the effective demand for housing. "In fact, State housing policies have confirmed or strengthened ... the relative advantages enjoyed by the middle strata in the urban social structure".64/ In view of the conditions prevailing in the region, it is evident that the market cannot satisfy the housing needs of an expanding population. There are many queries which could be raised on this matter. One query is connected with the frequently observed paradox of the simultaneous shortage of low-cost land and the existence of big vacant lots inside the city limits. Another regards the horizontal -and discontinuous- trend observed in the growth of cities, which leads to a rise in urbanization costs and restricts the supply of land. With regard to housing policies, it may be asked "why are not solutions sought which are more appropriate to the socio-economic status and needs of the poorest members of the population? Have not these strata shown that they possess the creativeness and initiative to solve their housing needs? Why are they viewed as being incapable of participating in self-building programmes? Why is private enterprise allowed to carry out this task if this means higher costs, the use of more resources, yet a smaller number of solutions?"65/

It is interesting, within this line of questioning, to recall that many of the Latin American countries where the State adopts a subsidiary role and gives the real estate market the status of the fundamental agent for urban development nevertheless signed the final report of the United Nations Habitat Conference, with its recommendation that "land ... cannot be treated as an ordinary asset, controlled by individuals and subject to the pressures and inefficiencies of the market" ... "public control of land use is therefore indispensable to its protection as an asset".66/ If this predicament gave rise t a consensus among the governments of the region, this would seem a suitable moment to see what action has been taken to make this consensus a reality. As asserted in a United Nations document: without the concept of the social function of property "it is difficult to see how the problems of urban development can be solved".67/

5. Environmental deterioration, urban size and urbanization costs

Speculative land management -and the actions and abstention from action of the public sector- lead to a reproduction of the inequalities inherent in the predominant development style. The poor, excluded from the real estate market, are relegated to precarious forms of settlement (squatters' settlements without services

/in central

in central zones and periferal areas), in which unhealthy conditions help to maintain high mortality indices among the lower-income strata. As a manifestation of this situation, there are considerable differences in the probability of death during the first years of life among the various urban social groups.68/ A large part of environmental deterioration appears to be accounted for, then, by the trends of social segregation; in order to eliminate the deficiencies present in the lower-income districts, a radical reorganization of urban space, accompanied by profound changes in income distribution and consumption patterns, would appear to be required.69/

On the basis of the problems posed, it cannot be concluded that urban size, or the growth of the city population, is the basic determining factor in and of itself, of poverty or environmental deterioration. Urbanization costs is another aspect which must also be considered. Part of the argument against the size of the large cities is based on the financial implications associated with their growth. It has been asserted that such nuclei might already have reached such dimensions that the diminishing returns on the additional investment required might spark "an awareness of the need to combat centralism".70/ The subject of urbanization costs is, nevertheless, a great deal more complex. It must first be borne in mind, that the expansion and improvement of public services (basic sanitation, clean-up and lighting, transport and roads, education and health) not only help to raise material living conditions for those who receive them, but also play an important role in the performance of industrial and services activities located in the cities.

Although it is often supposed that the larger cities involve higher unit costs than the smaller ones, which leads to a belief that growth rates exacerbate financial problems, the production of basic services is subject to economies and diseconomies of scale and of urbanization which, for the most part, make such an assumption invalid. Furthermore, comparisons of public expenditures in cities of different sizes pose additional complexities. Firstly, the expenditures of public agencies reflect not only components of supply but also of demand (specification of the quantity and quality of the services), and these expenditures should therefore not be considered as simply being equivalent to the costs. Secondly, since each service has its own cost curves -which do not necessarily increase steadily as the size of the city grows or the quality of supply rises- it is difficult to conduct comparative studies.71/ Considerations of economic efficiency have given rise to a widespread controversy about the "optimum" size for a city; this is understood as the size at which benefits are maximized and total costs are minimized. The debate has been hindered by the fact that, depending upon the perspective of the analysis, there may be different "optimum" sizes. Moreover, since empirical curves which would reflect a measurement of total social benefits and costs have not been developed, the search for an "optimum" size becomes a matter of theoretical interest which does not lead to the specification of practical guidelines for public action.

An important element linked to urbanization costs, environmental deterioration and the social organization of urban space is transport. The search for attractive surroundings by the higher-income strata, and the strategy for surviving in urban spaces of those who do not have access to the real estate market, result in an extension of the urban radius. Given the absence of effective controls on land use,

/this expansion

this expansion leads to growing pressure for transport. A large share of public resources are therefore allocated for the provision of areas for roadways and the establishment of means of transport. The use of available resources, however, reveals profound discrepancies. A recent estimate showed that 80% of the transport routes of major cities in the region were occupied by automobile owners, which represent 20% of the people in transit; only the remaining 20% of the urban road surface is available for the 80% of the population transported in buses. Since public investments in this sector also tend to be concentrated in the higher-income residential areas -and between these zones and central areas- where the majority of all motor vehicles are found, the result is another form of appropriation of the use of the city by one social class.72/ The impact of automobile use on the lower-income strata is manifested in higher transport costs, which require a large part of the family budget, as well as in a prolongation of the work day; both of these factors lead to a deterioration in the living conditions of these social groups.73/ Once again, in the case of transport, the costs of the benefits of large cities are borne by the least priviledged sectors.

Notes

1/ For more detailed information on this subject, see "América Latina: Situación demográfica evaluada en 1983. Estimaciones (1960-1980) y Proyecciones (1980-2025)", E/CEPAL/CEGAN/POB.2/L.2.

2/ The average number of children which a woman would have by the end of her fertile life if, during that time, she is subject to the age-specific fertility rates recorded in a given year in the population.

3/ These comments are based on the information provided in the document cited above (E/CEPAL/CEGAN/POB.2/L.2).

4/ In Africa in 1980, these proportions were: 45% of young people, 52% of people of working age, and 3% of older persons. In the same year, the proportions in the more developed countries were 23%, 66% and 11%, respectively. United Nations, Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, New York, 1982.

5/ The ratio between the total population under 15 years and over 65 years, and the working-age population, by 100. In the most developed countries of the world as a group, this index fell from 59% to 52% between 1960 and 1980.

6/ See document E/CEPAL/CEGAN/POB.2/L.2.

7/ "América Latina: Situación demográfica alrededor de 1973 y perspectivas para el año 2000", CELADE, Series A, No. 128, January 1975.

8/ The growth rate of the urban population is estimated to have decreased from 4.23% between 1960 and 1970 to 3.41% in the following decade.

9/ Over 60% of the national population is classified as urban.

10/ Between 1960 and 1980, the percentage of the economically active population engaged in agriculture declined for the region as a whole from 48.2% to 35.1% (PREALC, Mercado de trabajo en cifras, Santiago, 1982).

11/ The growth rate between 1960 and 1980 reached 3.8% for the urban population and 4.5% for residents in localities of 20 000 inhabitants and over. Hereafter, that part of the urban population residing in these settlements is referred to as the city population.

12/ Vilmar Faría, "Desenvolvimento, urbanizaçao e mudanças na estructura do emprego: A experiencia brasileira dos ultimos trinta anos". This paper was presented at the Seminario sobre Cambios Recientes en las Estructuras y la Estratificación Sociales en América Latina, organized by the Social Development Division of ECLA (12-15 September 1983). Also see, E.J. Bremaeker, "Urbanizaçao em marcha", in Revista de Administraçao Municipal, year 30, No. 166 (1983), pp. 60-90.

13/ The annual population growth rates estimated for the urban population in cities of 20 000 inhabitants and over and of 100 000 inhabitants and over in Latin America are, in percentages, as follows:

	1960-1970	1970-1980	1960-1980
Urban population	4.2	3.4	3.8
Cities of 20 000 inhab. and over	4.8	4.2	4.5
Cities of 100 000 inhab. and over	4.9	3.9	4.4

Source: CELADE, 1983.

The percentages of the total population of Latin America living in cities of 100 000 inhabitants and over increased as follows: 25.3% in 1960, 31.5% in 1970 and 36.4% in 1980.

14/ In countries with a low level of urbanization, the number of nuclei of this size is very small; the effect produced by the entry of a new centre into this category can yield a very high rate and, consequently, a distorted picture of the change.

15/ It should be borne in mind that the growth rates of the cities considered individually are far below the rates obtained for the aggregate; strictly speaking, this involves a size category whose population increase is in large part due to the increase in the number of centres.

16/ H.L. Browning, "Recent trends in Latin American urbanization", in Annals, American Academy of Political and Social Science, No. 316 (March 1958), pp. 111-120; Richard M. Morse, "Trends and patterns of Latin American urbanization: A selective survey with commentary", in Latin American Research Review, Vol. I (1965), pp. 35-74.

17/ See, for example, Davis, Kingsley, Las causas y efectos del fenómeno de primacía urbana con referencia especial a América Latina (México, Instituto de Investigaciones Sociales, 1962); Manuel Castells, "La urbanización dependiente de América Latina", in Revista de Planificación, No. 8 (1973), pp. 2-18; Aníbal Quijano, "La urbanización de la sociedad en Latinoamérica", in Boletín Económico de América Latina, Vol. XIII, No. 2 (1968), pp. 211-229; Paul Singer, "Urbanización, dependencia y marginalidad en América Latina", in Manuel Castells, ed., Imperialismo y urbanización en América Latina (Barcelona, Ed. G. Gili, 1973), pp. 287-312; Vilmar Faría, "Del sistema urbano en el Brasil. Resumen de las características y tendencias recientes", in Revista Mexicana de Sociología, Vol. 53, No. 4 (1981), pp. 1415-1438.

18/ The indices were obtained from the following ratios:

$$P_{1/4} = \frac{C_1}{\sum_{i=2}^{4} C_i} \qquad P_{1/11} = \frac{C_1}{\sum_{i=2}^{11} C_i} \qquad P_{2/11} = \frac{C_1 + C_2}{\sum_{i=3}^{11} C_i}$$

Where P1/4 and P1/11 identify the indices of primacy for the 4 largest and 11 largest cities, respectively, C1 is the population of the major city and Ci denotes the population of the other cities considered.

19/ During the 1963-1975 period, a similar phenomenon occurred in Uruguay.

20/ Despite the above, Panama City continues to be the only urban centre of more than 100 000 inhabitants in the country.

21/ Colombia and, to a lesser degree, Honduras and Bolivia share this characteristic.

22/ This section is based on other ECLA studies, particularly: Tendencias y proyecciones a largo plazo del desarrollo económico de América Latina (E/CEPAL/1027/Rev.1); América Latina en el umbral de los años ochenta (E/CEPAL/G.1106) and The international economic crisis and Latin America's capacity to respond to it (E/CEPAL/G.1249).

23/ Iglesias, Enrique V., "Latin America on the threshold of the 1980s". In CEPAL Review, United Nations publication, Sales No. E.79.II.G.5, 1979, p. 15.

24/ International Labour Organisation, Regional Employment Programme for Latin America and the Caribbean (PREALC), Mercado de trabajo en cifras. 1950-1980. Santiago, Chile, 1982, pp. 36-80.

25/ OAS, Inter-American Statistical Institute, América en Cifras, 1977, Vol. III, Washington D.C., 1979, pp. 101-103.

26/ Iglesias, Enrique V., "Development and equity. The challenge of the 1980s", in CEPAL Review, United Nations publication, Sales No. E/CEPAL/G.1187, Santiago, Chile, December 1981, p. 13.

27/ Notestein, F.W., "Economic Problems of Population Change", in Proceedings of the Eighth Conference of Agricultural Economists, London, Oxford University Press, 1953.

28/ In table 5 data refer to the educational level of the mother; in reality this information was used by the authors as an indicator of the socio-economic group. Subsequent studies for other countries take occupation as an indicator of the socio-economic group, whereby the previous findings are corroborated.

29/ See Miró, Carmen and Mertens, Walter: "Influences affecting fertility in urban and rural Latin America", in The Milbank Memorial Fund Quarterly, Volume XLVI, No. 3, Year 1968, pp. 89-117.

30/ Rosen, B.C. and Simmons, A.B., "Industrialization, family and fertility: A structural-psychological analysis of the Brazilian case", in Demography, Volume 8, No. 1, Year 1971, pp. 49-69.

31/ Miró, Carmen, and Mertens, Walter, "Influences affecting fertility...", op.cit.

32/ The data in table 3 show bigger disparities in fertility between urban social groups than between population groups in rural areas. Another study carried out by the Costa Rica Office of CELADE pointed out that while the average fertility rate in the urban middle strata was 4.23 children per woman, in the marginal groups in urban areas it was as high as 7.03 children per woman, much the same figure as in the rural groups.

33/ The Costa Rica study to which allusion was made in an earlier note confirms this homogeneity, even when more rural groups are disaggregated. The data show that peasants with sufficient land for the family labour force have an average number of 7.4 children per woman; owners of minifundia with insufficient land for the family labour force also show a high rate of 7.9 children per woman; among rural wage-earners in more progressive enterprises, the average rate is 7.3 children; and among rural wage-earners in traditional enterprises it is 7.5 children.

34/ Calculations based on population estimates in CELADE, Boletín Demográfico, Year XVI, No. 32, Santiago, Chile, July 1983; and on rates of participation in ILO, Labour force estimates and projections, 1950-2000, Vol. III, "Latin America", 2nd. edition, Geneva, 1977.

35/ See note 1.

36/ See PREALC, "Dinámica del subempleo...", op.cit.

37/ See García, Norberto E., "Growing labour absorption with persistent underemployment", in CEPAL Review, United Nations publication, Sales No. E.82.II. G.4, December 1982.

38/ All references are to the market economy countries of the region.

39/ The fact that this situation is so widespread does not mean that the effect is similar in all countries, for urban concentration has taken place at very different rates and to very different degrees.

40/ See, in this respect, de Mattos, Carlos, "Crecimiento y concentración espacial en la América Latina: Algunas consecuencias", in El Trimestre Económico, Vol. XLVIII (2), No. 190, pp. 341-362; Garza, Gustavo, "La concentración económico-espacial en el capitalismo: Análisis empírico", in Demografía y Economía, Vol. XIV, No. 3 (1980), pp. 275-290; Hernández, José Enrique, "Notas sobre la distribución de la población en Colombia", in Lecturas de Economía, Nos. 7-8 (1982), pp. 63-86.

41/ A detailed analysis of this was made by Carlos de Mattos in El proceso de concentración territorial, ¿Obstáculo para el desarrollo? (Santiago, ILPES, document CPRD-C/69, 1983).

42/ See, in this respect, Appelbaum, Richard A. et al., The Effects of Urban Growth, A Population Impact Analysis (New York, Praeger, 1976); Alongo, William, "The Economics of Urban Size", in Papers of the Regional Science Association, Vol. XXVI (1970), pp. 67-83; Mera, Koichi, "On the urban agglomeration and economic efficacy", in Economic Development and Cultural Change, Vol. 21, No. 2 (1973), pp. 309-324.

43/ Tolosa, Hamilton C., "Desenvolvimento urbano no Brasil: Una interpretaçao econômica, in Revista de Administraçao Pública, Vol. 12, No. 2 (1978), pp. 67-90.

44/ De Mattos, El proceso de concentración ..., op.cit., p. 13.

45/ United Nations, Patterns of urban and rural population growth (New York, ST/ESA/SER.A/G.8, Sales No. E.79.XIII.9), pp. 39-44.

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54/ See, in this respect, Selowsky, Marcelo, "Income distribution, basic needs and trade-offs with growth: The case of semi-industrialized Latin American countries", in World Development, Vol. 9, No. 1 (1981), pp. 73-92.

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